Final

March 2015

Naval Base Coronado Coastal Campus

Environmental Impact Statement

U.S. Department of the Navy
Commander, Naval Special Warfare Command and Commanding Officer Naval Base Coronado

Volume 1 of 2: Environmental Impact Statement and Appendices A to C

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Lead Agency:
Department of the Navy

Action Proponents:
Commander, Naval Special Warfare Command and
Commanding Officer Naval Base Coronado

Volume 1 of 2: Environmental Impact Statement and Appendices A through C

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COVER SHEET
NAVAL BASE CORONADO COASTAL CAMPUS
ENVIRONMENTAL IMPACT STATEMENT

Lead Agency for the EIS:	U.S. Department of the Navy (Navy)
Title of the Proposed Action:	Naval Base Coronado (NBC) Coastal Campus
Affected Jurisdiction:	County of San Diego, Cities of Coronado and Imperial Beach
Designation:	Final Environmental Impact Statement (EIS)

ABSTRACT

This Environmental Impact Statement (EIS) was prepared by the U.S. Navy in compliance with the National Environmental Policy Act (NEPA) of 1969 (42 United States Code 4321 et seq.), the Council on Environmental Quality Regulations for Implementing the Procedural Provisions of NEPA (Title 40 Code of Federal Regulations [C.F.R.] Parts 1500–1508), and Navy Procedures for Implementing NEPA (32 C.F.R. 775). Four alternatives are analyzed in this EIS. The No Action Alternative would maintain the existing land uses and training facilities as currently utilized at NBC and would continue to have limited space for current and future training support for the Naval Special Warfare Command (NSWC), as well as an inability to cope with Congressionally mandated expanding training needs.

The Preferred Alternative, Alternative 1 – Silver Strand Training Complex-South (SSTC-South) Bunker Demolition Alternative, would consolidate NSWC facilities to one location on SSTC-South. This alternative would include design and construction of logistical support buildings, equipment use and maintenance training facilities, classroom and tactical skills instruction buildings, storage and administrative facilities, utilities, fencing, roads, and parking. A new controlled entry point would be provided for immediate access to/from State Route 75 and a historic bunker would be demolished to facilitate campus construction. Alternative 2 – SSTC-South Bunker Retention Alternative would include all the components of Alternative 1 within the same footprint but would include retention of a historic bunker, thereby resulting in a smaller developable footprint. Alternative 3 – Multi-Installation Alternative would site necessary NSWC facilities at more than one location to include Naval Amphibious Base Coronado and Naval Air Station North Island, in addition to SSTC-South. This alternative would include retention of the historic bunker similar to Alternative 2.

This EIS addresses the potential environmental impacts that could result from activities under the No Action Alternative, Alternative 1, Alternative 2, and Alternative 3. Environmental resource topics evaluated include land use and recreation; geology and soils; air quality; hazardous materials and waste; water quality and hydrology; noise; biological resources; cultural resources; traffic and circulation; socioeconomics and environmental justice; public health and safety; utilities and public services; coastal uses and resources; and aesthetics.

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EXECUTIVE SUMMARY

ES.1 INTRODUCTION AND BACKGROUND

The United States (U.S.) Department of the Navy (Navy) prepared this Environmental Impact Statement (EIS) to evaluate the potential environmental effects of developing an academic campus to support the current and future operational readiness of personnel with the Naval Special Warfare Command (NSWC) on Naval Base Coronado (NBC) in San Diego County, California. This EIS was prepared in compliance with the National Environmental Policy Act (NEPA) of 1969, which is found at 42 U.S. Code (U.S.C.) §§ 4321–4370h. The Regulations for Implementing NEPA, which are promulgated by the President's Council on Environmental Quality (CEQ), are found at 40 Code of Federal Regulations (C.F.R.) §§ 1500–1508. The Navy's Procedures for Implementing NEPA are found at 32 C.F.R. § 775. The Commanding Officer, NBC and the Commander, NSWC are joint action proponents for this EIS.

NBC comprises the following eight Navy installations in San Diego and Los Angeles counties: Naval Air Station North Island (NASNI); Naval Amphibious Base (NAB) Coronado; the Silver Strand Training Complex (SSTC); Naval Outlying Landing Field Imperial Beach (NOLF IB); Naval Auxiliary Landing Field San Clemente Island (NALF SCI); Camp Michael Monsoor; Remote Training Site Warner Springs; and Camp Morena.

The proposed NBC Coastal Campus would include a mix of instructional and administrative facilities that would support logistics, operations, training, and administration. Specific proposed actions within the NBC Coastal Campus proposal are (1) evaluation of current land use and available facilities; (2) augmentation by design and construction of new facilities to support logistics, equipment use (and equipment maintenance) training, classroom and tactical skills instruction, storage, and administration; and (3) design and build of related site improvements that may include new infrastructure (e.g., upgraded utilities, fencing, roads, and parking). Site preparation for construction, such as demolition of existing infrastructure (e.g., buildings and roads) and site grading and leveling, would also be included. All facilities and infrastructure would be maintained as necessary after development. Details of the Proposed Action and alternatives are presented in Chapter 2.

Outdoor training at SSTC was previously analyzed in compliance with NEPA in the Silver Strand Training Complex EIS (U.S. Navy 2011b), and related in-water training was previously analyzed in compliance with NEPA in the Southern California Range Complex EIS/Overseas EIS (U.S. Navy 2009a) and the Final Hawaii-Southern California Training and Testing EIS/Overseas EIS (U.S. Navy 2013a). The type of training proposed for the NBC Coastal Campus would include equipment use and equipment maintenance training, classroom and tactical skills instruction, and physical conditioning.

The Global War on Terrorism, following the events of 11 September 2001, signaled the need for, and ultimately led to, an increase in the demand for Special Operations Force (SOF) capabilities, including Naval Special Warfare, the maritime component of the U.S. Special Operations Command (USSOCOM). The Navy was directed to support an increase in Special Warfare Operators or Sea, Air, and Land (SEAL) team personnel and to develop riverine (river-type environments) warfare capabilities. NSWC experienced substantial growth to meet the global operational demands for special operatives, which resulted in the need for new facilities to support logistics, operations, training, and administration.

NSWC is located at Naval Amphibious Base (NAB) Coronado and directs the Navy's SOF. It is the lead maritime component of USSOCOM, headquartered at MacDill Air Force Base in Tampa, Florida. The NSWC mission is to organize, train, man, equip, educate, sustain, and maintain combat readiness, and deploy NSW forces to carry out special warfare missions worldwide. NSW forces operate independently or in conjunction with other SOF, joint forces, allied units, and coalition forces.

NSWC supports training strategy, doctrine, tactics, and requirements of Commander, USSOCOM by ensuring that NSW special operators, combat support, combat service support, and other personnel involved with performing NSW missions are maintained in an optimum state of readiness, discipline, and morale. NSWC further ensures that the component units formed by these personnel are ready to meet the operational requirements of Combatant Commanders to whom they will be assigned upon deployment. The Combatant Commanders organize, assign functions to, and direct subordinate commands and forces necessary to carry out missions, including authoritative direction over all aspects of military operations, joint training, and logistics. Other personnel involved with performing NSW missions include Naval Construction Battalion (Seabees); explosive ordnance disposal (EOD) technicians; and personnel with expertise in military specialties such as intelligence, communications, cryptology, and logistics. NSWC provides direction to seven NSW Groups (NSWGs) and the NSW Center (NSWCEN).

NSWGs train, equip, command, and deploy components of NSW Squadrons to meet the exercise, contingency, and wartime requirements of the regional Combatant Commanders, theater special warfare commands, and numbered fleets located around the world. Additionally, they receive support from permanently deployed NSW units in Guam, Bahrain, and Germany.

NSWCEN, located at NAB Coronado, provides basic and advanced instruction and training in maritime Special Operations to U.S. military and government personnel and members of select foreign armed forces. NSWCEN is responsible for oversight of all courses that lead to individual SEAL and SWCC qualifications or certifications (U.S. Navy 2010a), and for producing operators.

The NSW organization structure is based on various echelons/levels of command. Echelon I is USSOCOM, Echelon II is NSWC, and Echelon III includes the NSWGs and the NSWCEN. Echelon IV commands are operational and logistical units and training commands including SEAL teams, Support Activity (SUPPACT), Mobile Communications Detachments (MCD), Training Detachment (TRADET), and Logistics Support Unit (LOGSU), as well as both Basic Training Command (BTC) and Advanced Training Command (ATC). All Echelon IV training commands as well as operational and logistical units share similar missions and resources (e.g., space, personnel, equipment, civilian support staff, and medical resources). The training commands as well as operational and logistical units (Echelon IV) report to the NSWGs (Echelon III) for command and control.

ES.2 PURPOSE OF AND NEED FOR THE PROPOSED ACTION

The purpose of the Proposed Action is to (1) provide adequate facilities to support growth of NSWC on the west coast and (2) maintain the required levels of operational readiness of special warfare forces, as mandated by Title 10 U.S.C. § 167.

NSWC and its subordinate commands are located at five separate installations of NBC (NASNI, NAB Coronado, NOLF IB, NALF SCI, and SSTC) and the current locations of NSW facilities on NBC installations do not support efficient NSW operations and training, as mandated. Many NSW facilities on

NBC installations are functionally obsolete and do not meet current or would not meet future requirements for expansion and renovation. Many of these facilities were built during the World War II (WWII) era as temporary or pre-engineered facilities designed to meet a specific and immediate need, while others were built over 30 years ago for a very different force structure and are now functionally obsolete. On NAB Coronado alone, NSWC and subordinate commands are spread throughout 60 facilities that are divided by State Route 75 (SR-75), negatively impacting the potential to achieve effective Command and Control and organizational synergy.

These facilities include temporary, pre-engineered structures, tension fabric structures, and modular structures built or procured only as a short-term solution to ongoing needs. In addition, several NSW units are temporarily utilizing space in Bachelor Enlisted Quarters (BEQs). A lack of adequate, climate-controlled gear storage facilities has resulted in increased gear degradation and/or maintenance requirements. A lack of dynamic shooting and close quarters combat training facilities is resulting in west coast SEALs traveling to private sector ranges in the midwest and southeast, increasing time away from home and family. Basic Facility Requirements (space requirements that organizations rate vs. their actual space) for NSWC units at NBC are currently not being met. Space deficiencies and fragmentation of the force result in inefficiencies in mission planning and execution and jeopardize operational readiness of NSWC.

The Proposed Action is needed due to the lack of sufficient facilities and space to support NSWC's administrative, logistics, and classroom and tactical instruction functions. As identified in the NSW Strategic MILCON Development Plan at NBC, use of existing facilities would prove challenging and costly (U.S. Navy 2010b). The Proposed Action would meet this need by optimizing both facilities and use of space, including synchronistic site improvements, within the existing NBC footprint. This would allow NSWC to support their mandated mission requirements in an efficient manner. The Proposed Action would also consolidate the following command elements into one geographic location for efficient administrative functions:

- Naval Special Warfare Group ONE (NSWG-1)
- SEAL Teams ONE, THREE, FIVE, SEVEN (SEAL Teams 1, 3, 5, 7)
- Logistics Support Unit (LOGSU) ONE
- Training Detachment (TRADET) ONE
- Naval Special Warfare Group TEN Detachment Coronado
- Naval Special Warfare Support Activity One
- Naval Special Warfare Mission Support Center
- Naval Special Warfare Group TEN Regional Cultural Engagement Unit
- Naval Special Warfare Group TEN Regional Support Troop ONE
- Naval Special Warfare Group TEN Training Troop ONE
- Naval Special Warfare Group TEN METOC Troop ONE
- Naval Special Warfare Group TEN Unmanned Aerial System (UAS) Troop ONE
- Naval Special Warfare Group ELEVEN (NSWG-11)
- SEAL Team SEVENTEEN (SEAL Team 17)
- Naval Special Warfare Center Advanced Training Command (ATC)

ES.3 PROJECT LOCATION

NBC comprises the following eight Navy installations in San Diego and Los Angeles counties: NASNI; NAB Coronado; SSTC; NOLF IB; NALF SCI; Camp Michael Monsoor; Remote Training Site Warner Springs; and Camp Morena. Three NBC installations—NASNI, NAB Coronado, and SSTC—are considered as locations to support this Proposed Action. All three are located within 10 miles of each other.

NASNI

NASNI is bounded by San Diego Bay on the north and west, the Pacific Ocean on the south, and developed portions of the City of Coronado to the east and south. Primary on-base access is via Third Street, by way of the Coronado Bay Bridge (SR-75). NASNI has three nuclear-powered aircraft carrier berths, with two carriers currently homeported with more than 230 permanent and deployable aircraft. NASNI is the largest naval aviation industrial complex on the west coast and serves as the master helicopter base for NBC. NASNI is currently home to approximately 25,000 active duty military, reserve, and civilian personnel. The majority of facilities on NASNI are dedicated to both air and water/port operations and personnel support.

NAB CORONADO

NAB Coronado is bounded by San Diego Bay on the north, east, and south and the Pacific Ocean on the west. NAB Coronado is a primarily developed area with access provided via SR-75, which bisects the installation into two separate locations (bayside and oceanside). NAB Coronado's mission is to provide on-base facilities and services for the support of U.S. and allied forces engaged in amphibious, expeditionary, and special warfare training and operations. NAB Coronado is home to nearly 6,000 active duty, selected reserve military, and civilian personnel and is the only naval amphibious installation on the west coast and one of two amphibious installations in the U.S. NAB Coronado serves as the base of operations for Commander, NSWC.

SSTC

SSTC is bordered by a developed portion of the City of Coronado to the north and the City of Imperial Beach to the south, with San Diego Bay to the east and the Pacific Ocean to the west. SSTC is divided into two noncontiguous areas: SSTC-North and SSTC-South. SSTC-North includes land areas on the northern half of the Silver Strand peninsula, while SSTC-South includes land areas on the southern end of the peninsula; both include adjacent nearshore waters of the Pacific Ocean. SSTC-North and SSTC-South are separated by Silver Strand State Beach, which is owned by the State of California and is managed by the California Department of Parks and Recreation.

The mission of SSTC is to support the Navy and Marine Corps amphibious, expeditionary, and special warfare training by providing local land, sea, and airspace support services, material, and training facilities that will help Naval and Marine Corps forces achieve and maintain the highest level of operational readiness.

SSTC-North

SSTC-North is used for maritime and field training only and includes 10 oceanside beach and boat training lanes, ocean anchorage areas, bayside water training areas, and bayside beaches. The anchorages lie offshore of SSTC-North in the Pacific Ocean and overlap a portion of the boat training lanes. SSTC-North consists of 745 acres of land including approximately 2.6 nautical miles of coastline.

SSTC-South

SSTC-South is primarily used for maritime and field training but does provide limited infrastructure for classrooms, administration, and storage to support military training. It extends approximately 1.3 nautical miles along the Pacific Coast and encompasses approximately 548 acres of land owned by the Federal government from the mean high tide line on the bayside to the mean high tide line on the oceanside. SSTC-South also includes inland training areas and facilities inside a fenced area and oceanside beach and boat training lanes. Regional access to SSTC-South is provided by Interstate 5 (I-5); local access is provided by SR-75. SSTC-South also includes areas of sensitive natural and cultural resources. Natural resources include an area of wetlands and vernal pools in the southeast portion of the site. There are several federally listed wildlife species on SSTC-South including San Diego fairy shrimp, California Least Tern, Western Snowy Plover, and Light-footed Ridgway's Rail (formerly known as Light-footed Clapper Rail) and federally listed plant species include the salt marsh bird's beak. Cultural resources include ten World War II-era buildings/structures are located on SSTC-South. Seven of the building/structures were recommended as eligible for the National Register of Historic Places (NRHP), including the Wullenweber Antenna Array and the six building/structures recommended as contributors to the discontiguous Fort Emory Coastal Battery Historic District. Fort Emory Coastal Battery Historic District includes Building 98, Building 99, Building 100, Building 911, Building 912 fuel tank pits, and Battery Imperial. The Wullenweber Antenna Array has been approved for demolition with the exception of a segment that would be preserved for historic purposes.

ES.4 ENVIRONMENTAL REVIEW PROCESS

NEPA requires Federal agencies to examine the entirety of environmental effects of their proposed actions. The first step in the NEPA process for an EIS is to publish a Notice of Intent (NOI) to prepare an EIS, which provides an overview of the proposed action and the scope of the EIS. Scoping is an early and open process for developing the "scope" of issues to be addressed in an EIS and for identifying significant issues related to a proposed action. The scoping process for an EIS is initiated by publication of the NOI in the *Federal Register* and local newspapers. On 29 June 2012, the NOI to prepare this EIS was published in the *Federal Register* (Appendix A). The NOI invited agencies, organizations, and the general public to provide written comments about the Proposed Action and issues to be addressed in the EIS. The NOI also announced two public meetings, which were held on 17 July 2012 at the Marina Vista Community Center in Imperial Beach, California, and 18 July 2012 at the Coronado Public Library in Coronado, California. The scoping period was originally planned for 30 days but was extended for another 15 days to conclude on 14 August 2012 due to a request by the City of Coronado. Advertisements announcing the scoping meetings were placed in four local and regional newspapers: San Diego Union-Tribune, Enlace (Spanish newspaper), Coronado Eagle and Journal, and the Imperial Beach Eagle and Times. Advertisements regarding the notice of extension of the scoping period were placed in the same newspapers.

A summary of the public involvement process is also contained in Appendix A. Public scoping comments received during the scoping process were used to help focus the analysis in this EIS. Subsequent to the scoping process, a Draft EIS was prepared to assess potential impacts of the proposed action and alternatives on the environment. The U.S. Environmental Protection Agency (USEPA) published a Notice of Availability and Notices of Public Hearings in the *Federal Register* on 25 July 2014 (75 FR 43457). Notices were also placed in the *San Diego Union-Tribune*, *Enlace* (Spanish newspaper), *Coronado Eagle*, and in the *Imperial Beach Eagle and Times* announcing the availability of the EIS. The Navy held two public meetings, 13 August 2014 in Imperial Beach, California, and 14 August 2014, in Coronado, California. The 60-day comment period ran from 25 July 2014 to 22 September 2014. The Draft EIS was distributed to those individuals, agencies, and associations who asked to be notified during the public scoping period, as well as to members of Congress, the California governor, and officials in the coastal region surrounding the NBC study area. Additionally, the EIS was made available for general review at three information repositories in the local area, and on the project website (www.NBCCoastalCampusEIS.com). The information repositories included the Imperial Beach Library, Coronado Public Library, and City of San Diego Central Library. A total of 61 individuals and 17 agencies and organizations submitted comments on the Draft EIS. The comments addressed land use; air quality; hazardous materials and waste; water quality and hydrology; noise; biological resources; cultural resources; traffic and circulation; public health and safety; utilities and public services; coastal uses and resources; aesthetics; alternatives; and cumulative impacts. Each comment received during the public review period and a response to the comment are included in Chapter 10.

The Final EIS addresses all public comments received on the Draft EIS. Responses to public comments may include correction of data, clarifications of and modifications to analytical approaches, and inclusion of new or additional data or analyses.

ES.5 REQUIRED REGULATORY COORDINATION

As part of the NEPA compliance process, coordination and consultation with appropriate government agencies were initiated to obtain regulatory input and guidance related to the Proposed Action and alternatives. The Proposed Action may require specific regulatory decisions and approvals from Federal and state agencies, as summarized in Table ES-1.

Table ES-1
Regulatory Coordination Status

Statutes	Agency/Organization	Coordination Status
Endangered Species Act (1973, as amended)	U.S. Fish and Wildlife Service (USFWS)	Biological Assessment submittal to USFWS on 28 April 2014. USFWS issued an Informal Consultation Concurrence Letter (FWS-SDG-14B0200-14I0295) on 12 September 2014 (Appendix E)
National Historic Preservation Act of 1966, as amended (1994); Archaeological Resources Protection Act of 1979; National Register of Historic Places (1977); and Native American Graves Protection and Repatriation Act of 1990	California Historic Preservation Officer, Native American Tribes	Consultation and coordination with California State Historic Preservation Officer occurred and a Memorandum of Agreement was signed 25 February 2015 (Appendix E)
Clean Water Act (1972, as amended); Executive Order 11990 (Protection of Wetlands 1977)	U.S. Army Corps of Engineers (USACE) and California Regional Water Quality Control Board	Coordination with USACE would occur in 2015
Coastal Zone Management Act (1972, as amended)	California Coastal Commission	California Coastal Commission concurred with the Navy's NBC Coastal Campus coastal consistency determination on 12 November 2014 (Appendix E)
Clean Air Act (1970 and Amendments of 1977 and 1990)	U.S. Environmental Protection Agency	General Conformity, Record of Non-Applicability was signed 11 February 2015 (Appendix B)

ES.6 PROPOSED ACTION AND ALTERNATIVES

The Proposed Action would include 24 projects constructed over a 10-year period at a cost of approximately $700 million, providing nearly 1.5 million square feet of facilities. Details of the Proposed Action and alternatives are presented in Chapter 2.

ES.6.1 Development of Alternatives

Guidance for the development of alternatives is provided in CEQ regulations (40 C.F.R. § 1502.14). Analysis of the environmental impacts of the alternatives is the focal point of an EIS and is intended to provide the decision maker and the public with a clear understanding of relevant issues and the basis for choice among identified courses of action. NEPA requires that an EIS be prepared to evaluate the environmental consequences of a range of reasonable alternatives. The alternatives in this EIS were developed using the following Federal and military land use policies and procedures:

- Assessment of the current and projected needs for future military land use, nonmilitary land use, and resource management at NBC;

- Identification of public concerns through a public scoping process and consideration of comments received during this process regarding the Navy's new development, land utilization, and resource management; and

- Consideration of limited nonmilitary uses of Navy real estate and training areas at NBC components (including U.S. Border Patrol and YMCA Camp Surf). These uses need to be compatible with military uses and the Navy's stewardship goals for natural and cultural resources, and not create a compliance, security, or public health and safety risk or result in a fiscal burden.

ES.6.2 Reasonable Alternative Selection Criteria

Consistent with the purpose and need identified in Chapter 1, alternatives selection criteria were developed to help identify viable and reasonable alternatives to carry forward for analysis and to eliminate unreasonable alternatives from further consideration in the EIS. The reasonable alternative selection criteria for this EIS include the following:

1. Location of the Proposed Action in proximity to existing Federal facilities and military lands used by NSWC within the existing footprint of NBC. NSWC is located at NBC, the largest naval complex on the West Coast, and will not be relocating. NBC provides a full spectrum of Navy SEAL training inclusive of sea, air, and land components, which make NBC the critical present and future center for NSWC. NSWC directs the Navy's SOF from NAB Coronado, while SSTC is the premier west coast special warfare training area for the Navy; both are a part of NBC. A major concern for NSWC is the time required by the SEALs for deployment or training away from home, referred to as personnel tempo (PERSTEMPO) and individual tempo (ITEMPO). PERSTEMPO refers to the total time an individual is deployed versus non-deployed, and ITEMPO refers to the total time an individual is at home. Efficient location of commands, equipment, facilities, and infrastructure that support NSW within the NBC footprint would minimize the amount of time SEALs spend away from home for their training and would also comply with Navy PERSTEMPO requirements.

2. Avoid adversely affecting current Navy missions. Adding new facilities for NSWC, to other military installations would require other Commands to reorganize and relocate, and would thereby impede their missions.

3. Co-location of NSW facilities to the extent feasible to optimize efficiency and primacy of use. Co-locating the proposed NSWC facilities to a single installation would optimize efficiency and provide NSWC with first priority or exclusive use of the required facilities. Co-location would centralize operations and minimize organizational redundancies, integrate siting to improve mobility of deployments and training evolutions, maximize resource availability, resolve critical facility shortfalls, and replace inadequate and undersized facilities.

The specific geographic placement of the Coastal Campus on NBC is pivotal to providing shore installation support to NSWC. Identification of NSWC's role and function, and existing geographic relationship to NBC, to include land, facilities, infrastructure, and access to local ranges, has generated the set of selection criteria that funnels possible approaches into a reasoned evaluation whose ultimate purpose is to determine whether the examined alternatives fulfill the objective of this Proposed Action; that is to say, fulfillment of the purpose and need. Co-location of NSWC components provides synergy

(effective interaction), optimizes functional and geographic relationships, and maximizes funds available for modernization.

Since 11 September 2001, USSOCOM manpower has nearly doubled and overseas deployments have quadrupled. Shore forces support provided by NBC must include predictability, that is, the ability of SOF personnel to use local facilities to receive necessary knowledge and training "in their backyard." "Traveling to train" means more days away from home when in a non-deployed status. The NBC Coastal Campus would be a modernization effort that not only increases operational skills and proficiency, but also provides "days at home," thereby fulfilling the NBC mission to support Fleet, Fighter and Family.

ES.6.3 Alternatives Considered but Not Carried Forward for Detailed Analysis

Fifteen alternatives, including the No Action Alternative, were initially considered while preparing this EIS. Further analysis resulted in a determination that 13 action alternatives would not meet the reasonable alternative selection criteria and, thus, would not meet the Navy's operational readiness needs in Southern California. A brief description of these alternatives and reasons for their elimination are provided in the following sections.

Naval Air Station North Island

NASNI is located on Coronado Island approximately 10 miles northwest of SSTC-South. Due to its location within the NBC footprint, this alternative would meet criterion 1. NASNI is the Designated Helicopter Master Base for west coast helicopters. Mission-essential transient aircraft, including various helicopter, propeller, and jet aircraft, operate in and out of NASNI. NASNI is nearly fully developed in areas not otherwise constrained by restrictions on runway clearances, and construction of the 1.5-million-square-foot NBC Coastal Campus would require substantial relocation of uses, thereby impeding current Navy activities and missions. Due to a lack of available land at NASNI, co-location of NSWC facilities would not be feasible and optimizing efficiency and primacy of use would not occur. Therefore, this alternative would not meet criteria 2 and 3 and was eliminated from further analysis.

Naval Amphibious Base Coronado

NAB Coronado is located between NASNI and SSTC-South. Due to its location within the NBC footprint, NAB Coronado would meet criterion 1. NAB Coronado is nearly fully developed, and construction of the 1.5-million-square-foot NBC Coastal Campus would require substantial relocation of uses, constraining the spaces of other uses and users, and thereby impeding current Navy activities and missions. Due to a lack of available land at NAB Coronado, co-location of NSWC facilities would not be feasible and optimizing efficiency and primacy of use would not occur. Therefore, this alternative would not meet criteria 2 and 3 and was eliminated from further analysis.

NOLF Imperial Beach

NOLF IB is located 1 mile southeast of SSTC-South, 10 miles south of downtown San Diego, and adjacent to the City of Imperial Beach. Due to its location within the NBC footprint, NOLF IB would meet criterion 1. NOLF IB operates as an extension of NASNI, providing a practice airfield for helicopter operations, with miscellaneous support facilities serving the military population in the Imperial Beach area (U.S. Navy 2011d). Construction of the 1.5-million-square-foot NBC Coastal Campus exclusively at NOLF

IB would expand development and/or require substantial relocation of uses, constraining the spaces of other uses and users, and thereby impeding current Navy activities and missions. Due to a lack of available land at NOLF IB, co-location of NSWC facilities would not be feasible and optimizing efficiency and primacy of use would not occur. If air operations were relocated from NOLF IB to accommodate new development, the air training would need to be located elsewhere. Due to the air traffic volume at NOLF IB, NASNI would not have the capacity to absorb these additional air operations (U.S. Navy 2009b). Therefore, this alternative would not meet criteria 2 and 3 and was eliminated from further analysis.

Naval Base Point Loma

Naval Base Point Loma, located approximately 9 miles northwest of SSTC-South, is one of the Navy's premier west coast submarine bases. Due to its location outside the NBC footprint, this alternative would not meet criterion 1. Naval Base Point Loma is nearly fully developed in areas not otherwise constrained by restrictions for submarine security. Construction of the 1.5-million-square-foot NBC Coastal Campus would require substantial relocation of uses, thereby impeding current Navy activities and missions. Due to a lack of available land at Naval Base Point Loma, co-location of NSWC facilities would not be feasible and optimizing efficiency and primacy of use would not occur. Therefore, this alternative would not meet criteria 2 and 3 and was eliminated from further analysis.

Naval Base San Diego

Naval Base San Diego is located approximately 5 miles northeast of, and across San Diego Bay from, SSTC-South. Due to its location outside the NBC footprint, this alternative would not meet criterion 1. Naval Base San Diego is the principal homeport of the Pacific Fleet, consisting of 49 Navy ships, two Coast Guard cutters, five Military Sealift Command logistical support platforms, and several research and auxiliary vessels. Similar to Naval Base Point Loma, Naval Base San Diego is nearly fully developed in areas not otherwise constrained by restrictions on ship homeporting, and construction of the 1.5-million-square-foot NBC Coastal Campus would require substantial relocation of uses, thereby impeding current Navy activities and missions. Due to a lack of available land at Naval Base San Diego, co-location of NSWC facilities would not be feasible and optimizing efficiency and primacy of use would not occur. Therefore, this alternative would not meet criteria 2 and 3 and was eliminated from further analysis.

Marine Corps Base Camp Pendleton

Marine Corps Base Camp Pendleton, located 45 miles north of San Diego, is the Marines' premier amphibious training base and their only west coast amphibious training base. Due to its location outside the NBC footprint, this alternative would not meet criterion 1. Marine Corps Base Camp Pendleton has numerous environmentally sensitive (biological and cultural) resources that currently limit and constrain Marine Corps training. Construction of the 1.5-million-square-foot NBC Coastal Campus would further constrain training and would impede current Marine Corps activities and mission. This alternative would not meet criterion 2. NSWC would share coastal training areas with Marine Corps Base Camp Pendleton users and would not have primacy of use, which would not optimize efficiency of use. This alternative would not meet criterion 3. Therefore, this alternative was eliminated from further analysis.

Naval Auxiliary Landing Field San Clemente Island

NALF SCI is located 67 miles west of San Diego and within the NBC footprint. This alternative would meet criterion 1. The main mission of NALF SCI is to support research and development of many of the

Navy's weapon systems and it is also one of the few remaining live fire ranges available. A number of constraints, including threatened and endangered species and unexploded ordnance concerns, currently limit and constrain Navy training. Construction of the 1.5-million-square-foot NBC Coastal Campus would further constrain training and would impede current Navy activities and mission. This alternative would not meet criterion 2. In addition, the distance from assets, facilities, and land used by NSWC would be problematic for integration of new NSWC facilities, which would not optimize efficiency and primacy of use. This alternative would not meet criterion 3. Therefore, this alternative was eliminated from further analysis.

Camp Michael Monsoor

Camp Michael Monsoor (formerly known as the La Posta Mountain Warfare Training Facility) is located 60 miles east of San Diego within the NBC footprint. This alternative would meet criterion 1. Camp Michael Monsoor is one of the few places that allows SOF to conduct mountain warfare training in a real life environment with limited encroachment problems. Construction of the 1.5-million-square-foot NBC Coastal Campus would reduce the amount of training lands and would impede current Navy activities and mission. This alternative would not meet criterion 2. In addition, the distance from assets, facilities, and land used by NSWC would be problematic for integration of new NSWC facilities, which would not optimize efficiency and primacy of use. This alternative would not meet criterion 3. Therefore, this alternative was eliminated from further analysis.

Remote Training Site Warner Springs

Remote Training Site Warner Springs (RTSWS) is located approximately 45 miles northeast of San Diego within the NBC footprint. This alternative would meet criterion 1. The primary purpose for the RTSWS is to conduct Survival, Evasion, Resistance, and Escape (SERE) training, with a secondary purpose of supporting training activities. Any new development on this land would need to be reviewed and authorized by other landholders, including the Bureau of Land Management, U.S. Forest Service, and Vista Irrigation District, as the Navy does not have exclusive ownership or use rights to any land at RTSWS. Construction of the 1.5-million-square-foot NBC Coastal Campus would reduce the amount of current SERE training lands and would impede current Navy activities and mission, thereby, not meeting criterion 2. In addition, the distance from assets used by NSWC would be problematic for integration of new NSWC facilities, which would not optimize efficiency and primacy of use. This alternative would not meet criterion 3. Therefore, this alternative was eliminated from further analysis.

Naval Air Facility El Centro

Naval Air Facility El Centro, located 110 miles east of San Diego, is a key naval aviation training facility. Due to its location outside the NBC footprint, this alternative would not meet criterion 1. Naval Air Facility El Centro is developed and also has areas constrained by restrictions on runway clearances. Construction of the 1.5-million-square-foot NBC Coastal Campus would expand development and/or require substantial relocation of uses, constraining the spaces of other uses and users, and thereby impede current Navy activities and missions. This alternative would not meet criterion 2. In addition, the distance from assets used by NSWC would be problematic for integration of new NSWC facilities, which would not optimize efficiency and primacy of use. This alternative would not meet criterion 3. Therefore, this alternative was eliminated from further analysis.

Naval Air Station Fallon

Naval Air Station Fallon is located in the Lahontan Valley of Churchill County in west-central Nevada, about 70 miles east of Reno and 540 miles north of San Diego. Due to its location outside the NBC footprint, this alternative would not meet criterion 1. Naval Air Station Fallon is the Navy's premier tactical air warfare training center. Construction of the 1.5-million-square-foot NBC Coastal Campus would expand development and/or require substantial relocation of uses, constraining the spaces of other uses and users, and thereby impede current Navy activities and missions. This alternative would not meet criterion 2. In addition, the distance from assets used by NSWC would be problematic for integration of new NSWC facilities, which would not optimize efficiency and primacy of use. This alternative would not meet criterion 3. Therefore, this alternative was eliminated from further analysis.

Naval Air Weapons Station China Lake

Naval Air Weapons Station China Lake is located in the western Mojave Desert of Southern California, approximately 225 miles north of San Diego. Due to its location outside the NBC footprint, this alternative would not meet criterion 1. Naval Air Weapons Station China Lake supports the Navy's research, development, acquisition, testing, and evaluation of cutting-edge weapons systems for the warfighter. Construction of the 1.5-million-square-foot NBC Coastal Campus would expand development and/or require substantial relocation of uses, constraining the spaces of other uses and users, and thereby impede current Navy activities and missions. This alternative would not meet criterion 2. In addition, the distance from assets used by NSWC would be problematic for integration of new NSWC facilities, which would not optimize efficiency and primacy of use. This alternative would not meet criterion 3. Therefore, this alternative was eliminated from further analysis.

Marine Corps Air Station Miramar

Marine Corps Air Station Miramar, located approximately 18 miles northeast of SSTC-South, is home to the 3rd Marine Aircraft Wing, the aviation element of the 1st Marine Expeditionary Force. Due to its location outside the NBC footprint, this alternative would not meet criterion 1. Marine Corps Air Station Miramar has numerous environmentally sensitive (biological and cultural) resources that currently limit and constrain Marine Corps training. Construction of the 1.5-million-square-foot NBC Coastal Campus would expand development and/or require substantial relocation of uses further constraining the spaces of other uses and users, and thereby impede current Marine Corps activities and mission. This alternative would not meet criterion 2. In addition, the distance from assets used by NSWC would be problematic for integration of new NSWC facilities, which would not optimize efficiency and primacy of use. This alternative would not meet criterion 3. Therefore, this alternative was eliminated from further analysis.

ES.6.4 No Action Alternative

The No Action Alternative would maintain the existing land uses and training facilities currently at NBC. None of the Proposed Action construction or improvements would occur. Current programmed levels of use (type, tempo, location), including requirements for planned force growth, would continue. Use of existing facilities would prove challenging and costly, as documented by the NSW Strategic MILCON Plan at NBC, which identified the need for additional operational resources (U.S. Navy 2010b). As a result, NSWC would continue to have limited space for current and future training and operations support, as well as an inability to undertake Congressionally mandated growth. Geographically dispersed assets and

continued use of temporary facilities would continue to cause inefficiencies in mission planning and execution as well as logistical support. Commands would not be consolidated, and inefficiencies in command and control functions would continue. By limiting facilities and land use support to accommodate NSWC growth and expansion, the No Action Alternative would not achieve the mission of NSWC or the purpose and need of the Proposed Action. The No Action Alternative is used in this EIS as an analytical baseline that establishes the current facilities and land use framework. It provides this analytical baseline upon which other alternatives may be compared.

ES.6.5 Alternative 1 – SSTC-South Bunker Demolition Alternative (Preferred Alternative)

Alternative 1 (SSTC-South Bunker Demolition Alternative), the preferred alternative, would consist of (1) consolidation of the necessary NSWC facilities to one location on SSTC-South; (2) design and construction of logistical support buildings, equipment use (and equipment maintenance) training facilities (including an approximately 50-foot-long by 80-foot-wide by 120-foot-tall parachute drying tower or paraloft), classroom and tactical skills instruction buildings, storage, and administrative facilities; infrastructure; utilities; fencing; roads; and parking; and (3) construction of a new entry control point providing immediate access to SSTC-South from SR-75. Also included would be a food service facility, fuel dispensing facility, a "mini-mart" type of store and improved fire protection and emergency services. With the exception of the paraloft at 120 feet tall and potentially several rooftop communication antennas, all other buildings would be limited in height to 45 feet or the height of the largest bunker, Building 99. Under this alternative Building 99 would be demolished along with up to 20 other existing structures. An existing Navy facility along with its associated cabling would need to be relocated north of its current location within the Alternative 1 footprint. Site preparation would potentially also include demolition of infrastructure and site grading and leveling. Sustainable design would be used for all facilities as is practical. Leadership in Energy and Environmental Design (LEED) Silver standards is the minimum goal for the Coastal Campus. Off-site traffic, access, and utility improvements would also be required.

Alternative 1 would be composed of general facility requirements and proposed military construction (MILCON) projects, as included in Table ES-2.

Table ES-2
NBC Coastal Campus Facility Requirements Summary

Facility Requirements[1]	MILCON Projects	Estimated Square Footage
Administration	P-200, P-912, P-951	90,000
Operational Units	P-797, P-889, P-890, P-892, P-893, P-904, P-915, P-919, P-964	737,000
Logistics and Community Support	P-776, P-870, P-920, P-921, P-965	292,000
Training (Indoor and Physical Training)	P-911, P-918, P-949, P-950, P-952, P-966, P-967	340,000
TOTAL	**24 MILCONs**	**1,459,000**

[1] These are general facility types, but similar uses (i.e., administrative and storage) could be included within multiple facility types. Not included in this summary are the proposed entry control point (P-947), infrastructure improvements (P-991), improved fire protection and emergency services, food service, fuel dispensing, or "mini-mart" facilities that are also a part of the Proposed Action.

The following discussion will address the proposed land uses and improvements and the interrelationship of the proposed facility requirements, the demolition of Building 99, traffic and access improvements, and utility improvements.

Relationship Between Facility Requirements

The guiding planning element of Alternative 1 is the clustering of interrelated uses, functions, and facilities on a single, contiguous campus to facilitate multiple types of efficiencies as described below.

Administration

Administrative uses include command-and-control for oversight of subordinate commands. NSWG-1 Operations Support Facility (P-200), NSWG-11 Operations Support Facility (P-912), and the ATC Operations Support Facility (P-951) would be co-located to support effective command and control.

Operational Units

Operational units including SEAL Teams 1 (P-889), 3 (P-890), 5 (P-964), and 7 (P-892) would be the core of the proposed NBC Coastal Campus. These are active SEAL teams participating in a common, ongoing 24-month inter-deployment training cycle in preparation for their next deployment, itself a 6-month event. Operational units have day-to-day interaction with their own support elements for mission planning, instructions, and coordination, requiring operational adjacencies and synergies. SEAL Team 17 (P-904), a reserve team on a differing training and deployment cycle, but with similar types of support needs, would be co-located with the active SEAL teams.

SEAL team support elements include SUPPACTs and Mobile Communications Detachments (MCD). Both have regular and frequent interaction and deploy with SEAL teams. SUPPACT (P-797, P-893, and P-919), is an operational unit providing intelligence, surveillance, and reconnaissance support to SEAL teams. MCD (P-915) is an operational unit providing communications support to the SEAL teams.

Logistics/Community Support

Logistics encompasses a number of functions, including Unmanned Aerial Vehicle (UAV) maintenance and storage (P-870); supply (warehousing), small craft engineering (repair and maintenance of small craft), and Combat Services Support (P-920); tactical ground mobility (maintenance and repair of military vehicles) and air operations (cleaning, storing/hanging, and maintaining parachutes) (P-921); and dive operations (repair and maintenance of dive equipment) and armory (weapons cleaning, storing, and maintenance) (P-776). The Resiliency Center (P-965), a resource available to SOF personnel and their families to proactively address many of the mental, physical, spiritual, and financial challenges they face, would also be located on the NBC Coastal Campus.

Training (Indoor and Physical Training)

With the operational units and the logistics/community support uses clustered together, physical training components are needed in proximity for efficiency of day-to-day training support. The Tactical Athlete Center (TAC) (P-952) is a wellness facility for physical fitness, nutrition, alternative medicine, rehabilitation and physical therapy, and spiritual healing. The purpose of the TAC is to reduce injury, aid

in recovery, and educate the SEALs on proper biomechanics to become stronger and more resilient. The TRADET facility (P-966) includes classrooms providing a variety of courses of instruction in Land Warfare, Assaults, Mobility, and Waterborne (Surface and Subsurface) Training, and supports combatives training prior to deployment. The individual SEAL also spends a good deal of time at this facility when preparing for deployment.

The other multiple training and training support facilities with synergies gained from co-location with the elements described above would include ATC Applied Instruction (P-949); TRADET Training Tank, ATC Dive Operations, and Obstacle Course and Turf Field (P-966); ATC Operations and Support and ATC Communications (P-950); Close Quarters Combat (P-918); NSWG-1 Multi-Purpose Canines Complex (P-967); and SERE (P-911) facilities.

Based on the descriptions above, the indoor training facilities, the operational and logistics facilities, and the respective administrative facilities are operationally linked and would need to be co-located with the SEAL teams to maximize operational efficiencies and to optimize organizational synergies.

If these various elements, along with their associated personnel, would be concentrated in one place, a food service facility, which is a “service common” element not specific to NSWC, would be needed at the project site. Without a food service facility, there would be no food service provided on SSTC-South. To address the need for additional fire protection and emergency services for the proposed Coastal Campus, the Navy would implement one or more of the following measures (1) constructing a new fire station with a structural pumper, an ambulance, and associated staffing, (2) establishing a temporary fire station with firefighting apparatus, an ambulance, and staffing, (3) staging firefighting equipment including an ambulance at SSTC-South, (4) roving firefighting equipment (between NOLF IB and SSTC-South) including an ambulance, and (5) obtaining a deviation approval of the Department of Defense (DoD) Fire and Emergency Services Program (DoD Instruction 6055.06). Also included in the Proposed Action would be an entry control point (P-947) that would involve construction of a base main gate with sentry house and anti-terrorism/force protection (AT/FP) improvements including new traffic lanes for approach, queue, vehicle inspection, denial, and exit, plus reinforced fencing, a wall, traffic barrier systems, pedestrian gates, a security office, utilities, paving and site improvements, and parking; a fuel dispensing facility with capacity for approximately 3,000 gallons of gasoline (87 octane), 2,000 gallons of Diesel #2, 300 gallons of liquid petroleum, liquid propane, and 300 gallons of compressed natural gas; and a “mini-mart” type of store. For the purposes of analysis in this EIS, it is assumed that up to 20 existing structures (not including Building 99, discussed separately below) and associated utilities and infrastructure at SSTC-South would need to be demolished to facilitate the new development proposed under Alternative 1.

Demolition of Building 99

The existing NRHP-eligible historic bunker complex (Building 99) at SSTC-South would be demolished (P-991) under this alternative, and was reviewed in compliance with the National Historic Preservation Act (NHPA) Section 106 process. The Building 99 area, approximately 4.6 acres in size, is located in the central portion of the developable northern area of SSTC-South. With the removal of Building 99, this 4.6-acre area would be usable for the proposed NBC Coastal Campus development. Demolition of Building 99 would be conducted with the use of small commercial explosives and/or diamond saws to initially break up the structure followed by drilling and hammering to further break up the materials. Abatement of lead-based paint/asbestos-containing materials surveyed would be conducted before demolition. The demolished concrete and steel would be either reused as part of the construction material for the Coastal

Campus or removed to a local landfill. Assuming a worst-case scenario of no reuse, removal of the debris would result in approximately 5,400 truck (round trip) trips from SSTC-South to I-5 via the Palm Avenue portion of SR-75. Complete demolition would last approximately 24 months; however, demolition debris would be stockpiled adjacent to the demolition site and the majority of the debris removal would occur over a 2- to 3-month period.

Traffic and Access Improvements

Primary access to the site would be provided from SR-75 in the northern portion of SSTC-South. This intersection and access would be improved with additional turn lanes on SR-75, improved ingress and egress from SR-75, and a new entry control point (P-947). The ingress/egress to SR-75 would require signalization. The proposed improvements to SR-75 would include a new southbound right-turn lane and a new northbound left-turn lane into the proposed Coastal Campus. These improvements would occur within the California Department of Transportation (Caltrans) right-of-way. The entry control point would provide standard vehicle identification checks, personal identification checks, and truck inspection checks, along with parking. An entry control facility, including a 1,700-square-foot sentry house, would ensure the proper level of access control for all traffic to the Coastal Campus. The design of the entry control point would avoid or minimize headlight glare directed at the Coronado Cays.

The existing southern controlled access gate would remain open; however, use of this gate would be limited to current traffic volumes with construction of the proposed entry control point. Operation of the southern gate would have restricted hours. To prevent demolition and construction traffic from traveling through the southern controlled access gate and residential areas of Imperial Beach, temporary northern access would be provided until a permanent northern entry control point can be constructed. Improvements to the temporary northern access could include a traffic signal, a left-turn lane on northbound SR-75 into the site, and a right-turn lane on southbound SR-75 into the site. These improvements would be within the Caltrans SR-75 right-of-way. Future traffic improvements (P-991) would also be required at five intersections on Palm Avenue (SR-75). These improvements are described below:

- Rainbow Drive/Palm Avenue (SR-75) – restriping of the traffic lanes on Rainbow Drive and adjusting the intersection traffic signal phasing. These improvements would be needed by 2024.
- Palm Avenue (SR-75)/9th Street – adjusting the intersection traffic signal phasing. This improvement would be needed by 2040.
- Palm Avenue (SR-75)/13th Street – adjusting the intersection traffic signal phasing. This improvement would be needed by 2040.
- Palm Avenue (SR-75)/19th Street/Saturn Boulevard – street widening on Palm Avenue (SR-75) to change the westbound approach to include a second westbound left-turn lane. This improvement would be needed by 2040.
- I-5 southbound exit ramp/Palm Avenue (SR-75) – extend the southbound right-turn lanes on the exit ramp. This improvement would be needed by 2040.

The Navy will fund these off-site traffic improvements through the Defense Access Road program.

Utility Improvements

Utility improvements (P-991) would be required to serve the Coastal Campus. A 16-inch water line within a 30-foot-wide easement extends through the site north to south. The water easement is with California American Water Company. The existing 16-inch line would be tapped into at two locations to provide redundancy for the 10-inch fire main, as well as an additional tap for a 6-inch line for potable water service to the new MILCONs. California American Water Company has recommended that 200,000 gallons of on-site water storage along with booster pumps be included to handle peak flows. The water storage would be located in one or more water storage tanks proposed to be constructed within the project footprint.

The 30-foot California American Water Company water easement may need to be relocated within the Alternative 1 footprint. It currently extends through the proposed Coastal Campus footprint, and constructing new facilities over the pipeline would hinder future pipeline maintenance and/or repair. If relocation is required, the pipeline would be replaced from the connection at the northern SSTC-South boundary to a reconnection point south of the Coastal Campus development in the central portion of the site. The replaced portion(s) of the existing pipeline would be excavated in the construction area or abandoned in place and filled with a material (i.e., slurry-type of material) to prevent pipeline collapse.

The City of Imperial Beach has been providing wastewater service to SSTC-South via a 4-inch-diameter pressurized sewer main within Hooper Boulevard. This service would continue for the proposed Coastal Campus. Service would be connected to the City of Imperial Beach's 6-inch wastewater line south of SSTC-South. A new wastewater conveyance system along with a wastewater storage facility and a proposed 450-gallons-per-minute pump station would be included on-site. A new 6-inch-diameter sewer force main would be proposed (replacing the existing 4-inch-diameter main) extending approximately 4,000 feet from the center of the existing Wullenweber Antenna Array within Hooper Boulevard to the connection to the Imperial Beach system. Operational redundancy during emergency conditions would be provided by equipping the new pump station with an emergency storage facility capable of accommodating up to 6 hours of average sewer inflow.

Off-site improvements to the City's system may be required to accommodate the additional wastewater demand. It is assumed that the City's entire sewer main to Pump Station 5 (east of the intersection of Dahlia Avenue and Seacoast Drive) would be replaced. This would include upgrades to the sewer lines within Silver Strand Boulevard, Calia Avenue, and Seacoast Drive to Pump Station 5. Improvements to the sewer line within Imperial Beach Boulevard from 4th Street to East Lane may also be required. The proposed improvements would increase the 6-inch line to an 8-inch or 10-inch line.

Electrical and natural gas service would be provided by San Diego Gas and Electric. Existing electrical service is available at the central, eastern boundary of SSTC-South along SR-75. The proposed electrical upgrades needed to serve the proposed Coastal Campus would be installed within the four existing 4-inch conduits on the eastern edge of SSTC-South. The existing switchgear building (Building S) has sufficient space to accommodate the electrical upgrades. These improvements would not require any ground disturbance.

On-site, the electrical system would be placed underground. A new natural gas line would need to be installed from the center of the existing Wullenweber Antenna Array south within the existing road to the connection at the SSTC-South/Imperial Beach boundary. Communication services would be provided on-site by the Navy.

Construction activities would generally be restricted to occur between 7:00 AM and 7:00 PM Mondays through Saturdays. On rare occasions, nighttime construction may be required but public notices would be posted for these activities.

ES.6.6 Alternative 2 – SSTC-South Bunker Retention Alternative

Alternative 2 (SSTC-South Bunker Retention Alternative) would include all of the components of Alternative 1, except Building 99 would be retained rather than demolished and would be preserved in place or adaptively reused. All other existing structures on SSTC-South proposed for demolition under Alternative 1 would also be proposed for demolition under Alternative 2.

The existing NRHP-eligible historic Building 99 at SSTC-South would be retained and preserved in place or adaptively reused under Alternative 2, subject to review in compliance with the NEPA and NHPA. Due to the central location and the areal extent of the bunker, the portion of the Alternative 2 footprint that could be developed for the Coastal Campus itself would be smaller (by 4.6 acres) than under Alternative 1.

ES.6.7 Alternative 3 – Multi-Installation Alternative

Alternative 3 (Multi-Installation Alternative) would include all of the components described for Alternative 1 (SSTC-South Bunker Demolition Alternative), but these components would be located on three separate Navy installations: NAB Coronado, NASNI, and SSTC-South. As discussed in Section ES.6.3, neither NAB Coronado nor NASNI alone could accommodate the entire 1.5-million-square-foot Coastal Campus development; however, these installations could accommodate separate proposed uses, with the remaining proposed uses located at SSTC-South.

Under Alternative 3, the MILCONs included in the plan would be the same as those included under Alternative 1 and would provide the necessary operational resources for NSW. Similar to Alternative 1, Alternative 3 would be composed of general facility requirements, as described in Table ES-2.

Alternative 3 differs from Alternative 1 in that four facilities included in the Proposed Action would not be clustered with the other uses at SSTC-South. Specifically, SEAL Team 17 (P-904), NSWG-11 Operations Support Facility (P-912), and the Resiliency Center (P-965) would be located at NAB Coronado, and the maintenance and logistics portion of the UAV facility (P-870) would be located at NASNI. All other proposed components would be located at SSTC-South, similar to Alternative 1, and the SSTC-South portion of the Alternative 3 footprint would be the same as that of Alternative 2. While Alternative 1 describes the advantages of including these facilities in an integrated campus with the rest of the facilities described above, below are potential reasons for taking a multi-installation approach with alternative siting of these facilities.

For the purposes of analysis in this EIS, it is assumed that up to 10 existing structures and associated utilities and infrastructure at NAB Coronado would need to be demolished to facilitate the new development proposed under Alternative 3. Given the existing and planned status of all buildings in the area identified at NAB Coronado, no compensatory construction would be required. No demolition would be required at NASNI.

The configuration of Alternative 3 would still provide the adjacency and synergy required to support the functionality of the various echelons/levels of command within the NSW organizational structure. Under Alternative 3, Building 99 would be retained as proposed in Alternative 2. Demolition of up to 20 other existing structures on SSTC-South was proposed for Alternative 1, and would also be proposed for Alternative 3. Site preparation for construction, such as demolition of existing infrastructure (e.g., roads) and site grading and leveling, would also be included.

All traffic and access improvements as well as utility improvements for Alternative 3 would be the same as those described for Alternative 1. No additional access or utility improvements would be proposed at NAB Coronado or NASNI as a part of the Proposed Action, but routine maintenance and periodic system upgrades would continue to occur. Existing utilities at NAB Coronado and NASNI would be able to accommodate the proposed MILCONs at those installations.

ES.6.8 Preferred Alternative

Alternative 1 (SSTC-South Bunker Demolition Alternative), described in detail in Section ES.6.5, is the preferred alternative. SSTC-South has a number of existing considerations for current and future development, including natural (vernal pools and wetlands in the southeastern portion of the site and Western Snowy Plover nesting areas on the beach area) and cultural (prehistoric and historic structures along the eastern boundary and throughout the northern central portion of SSTC-South) resources, an unprepared helicopter landing zone and flight path, a 30-foot-wide potable water line easement (California American Water Company), the segment of the historic Wullenweber Antenna Array that is being preserved, and two facilities with surrounding site uses that could not be entirely relocated off-site. Each of these limited the available developable area. With the proposed demolition of Building 99, Alternative 1 would provide an additional 4.6 acres of available developable area. Building 99 is located within the core or central area of the proposed Coastal Campus development and if retained, as in Alternatives 2 and 3, it would hinder an optimal design of the Coastal Campus including the internal road network, building orientation, and flow of personnel and operations. The additional 4.6 acres would allow for a more complete design and layout of the Coastal Campus structures and uses.

ES.6.9 Affected Environment and Environmental Consequences

This EIS describes existing environmental conditions and assesses the environmental effects of the Proposed Action alternatives. The affected environment and environmental consequences are described and analyzed according to categories of resources. In the environmental impact analysis process, the resources analyzed are identified and the expected geographic scope of potential impacts for each resource, known as the resource's region of influence, is defined.

ES.6.10 Summary of Effects

Environmental effects that may result from implementation of the Navy's proposed NBC Coastal Campus are summarized in Table ES-3.

ES.6.11 Cumulative Impacts

Cumulative impacts were analyzed by following NEPA, CEQ regulations, and CEQ guidance. This cumulative impacts analysis studies each impacted resource area and determines the level of impact that

results from the incremental addition of the Coastal Campus proposal, when added to past, present, and reasonably foreseeable future actions. Identifiable effects of actions occurring in the past and present were analyzed, along with reasonably foreseeable future actions to assess additive impacts of the NBC Coastal Campus.

The NBC Coastal Campus project would not significantly change or impact current or planned nonmilitary land use, recreation, or public access. Cumulative effects to geology and soils would be negligible. The Proposed Action would conform to the State Implementation Plan and would not require a conformity determination for air pollution impacts to regional air quality. The Proposed Action would not substantially contribute to global climate change and greenhouse gas emissions. Generation of hazardous materials and wastes would be managed as part of the overall hazardous waste stream, and existing physical capacities would be sufficient to handle cumulative additions to the existing waste stream. Compliance with state and Federal regulations would limit the release of pollutants to minimal amounts, which would not result in substantial cumulative effects to water resources.

The NBC Coastal Campus, along with other anticipated projects and activities, could result in minor increases in intrusive noise, traffic noise, and operational noise, but cumulative effects would not be significant.

All Federal activities within SSTC-South potentially affecting federally protected species and habitats would be subject to Endangered Species Act Section 7 consultation with U.S. Fish and Wildlife Service (USFWS) with reasonable and prudent measures, terms and conditions, and conservation recommendations. In addition, NBC has established plans and conditions throughout SSTC-South to protect, preserve, and conserve natural resources to minimize significant cumulative impacts. These plans and conditions have been established in concert with USFWS (and as identified in several Biological Opinions issued by USFWS), training and operations guidelines, and the NBC Integrated Natural Resources Management Plan (INRMP). A Biological Assessment was submitted to USFWS on 28 April 2014, initiating formal consultation and USFWS issued an Informal Consultation Concurrence Letter (FWS-SDG-14B0200-14I0295) on 12 September 2014 (Appendix E). The NBC Coastal Campus is not anticipated to contribute to cumulative impacts to federally listed plants or wildlife because no occupied habitat would be permanently, directly impacted. Although permanent and temporary indirect impacts are associated with the NBC Coastal Campus, these are not anticipated to contribute to the loss of federally listed species or occupied habitat, and, therefore, would not contribute to cumulative impacts.

The NBC Coastal Campus would adversely affect a WWII-era historic property. No nonmilitary projects in the area would have the potential to disturb WWII-era historic military resources, and there would be no cumulative effects from those projects. One historic structure (Building 99) eligible for listing in the NRHP as a contributor to the Fort Emory Coastal Defense Historic District would be demolished under Alternative 1. This would constitute an adverse effect to the NRHP-eligible Historic District. Other military projects in the area that are not a part of the Proposed Action could also adversely affect WWII-era historic Navy resources.

As dictated by the NHPA, the Navy is obligated to protect historic properties under its ownership in a way that emphasizes preservation and minimizes the impact of undertakings that might individually or cumulatively adversely affect such properties. Therefore, while individual effects may be adverse, by the

Navy meeting its protection obligations, the Proposed Action, when added to the impacts from other potentially cumulative projects, would not result in significant cumulative impacts to cultural resources.

Traffic generation associated with military and civilian projects that are completed, in progress, or planned for development in Coronado and Imperial Beach have been factored into San Diego Association of Government's traffic forecasts. Therefore, while individual projects would contribute to traffic generation on roadways affected by the NBC Coastal Campus, regional-level planning has taken place to consider associated traffic levels. As such, when added to the impacts from other potentially cumulative projects, the Proposed Action would not result in significant cumulative impacts to traffic and circulation.

The NBC Coastal Campus would have a minimal effect on regional employment, income, housing, and infrastructure and would not contribute to cumulative socioeconomic effects in the region.

The Navy has specific and documented procedures in place to ensure the public health and safety from Navy operational actions. The incremental impacts of the NBC Coastal Campus would not represent any appreciable contribution to cumulative health and safety risks. Therefore, when added to the impacts from other potentially cumulative projects, the Proposed Action would not result in significant cumulative impacts to public health and safety.

The Proposed Action in combination with other developments and projects in the area would increase the demands for utilities and public services. Each project would coordinate with the service's providers to ensure adequate service is available and to avoid a significant cumulative impact.

The NBC Coastal Campus would be visually compatible with the existing building heights. No structures would be taller than 45 feet above grade with the exception of the proposed 120-foot-tall paraloft. Partial removal of the Wullenweber Antenna Array would improve the existing visual landscape of SSTC-South by providing increased opened views of the natural environment. The NBC Coastal Campus would not change public or coastal access. Construction effects on water quality would be temporary and would not be significant, provided there was successful compliance with the water quality conservation measures. Thus, cumulative aesthetic impacts and impacts to the coastal environment would not be significant.

ES.6.12 Mitigation Measures and Impact Avoidance and Minimization Measures

NEPA regulations require that the Federal agency provide the means to mitigate adverse environmental impacts of the Proposed Action alternatives. These mitigation measures are proposed for implementation during the design, construction, and postconstruction stages of the Proposed Action to minimize and avoid potential significant impacts. Mitigation measures to address specific impacts from the proposed Coastal Campus are included in Table ES-4.

As part of the Navy's commitment to sustainable use of resources and environmental stewardship, the Navy incorporates into all of its activities measures that are protective of the environment. These impact avoidance and minimization measures include employment of best management practices, employment of standard operating procedures, and adoption of other measures that avoid or minimize the impacts of Navy activities on the environment. Chapter 5 provides a list of which mitigation measures and impact avoidance and minimization measures are proposed for each resource area.

Table ES-3
Summary of Effects

Resource	No Action Alternative	Alternative 1 (Preferred Alternative)	Alternative 2	Alternative 3
3.1 Land Use and Recreation	Impacts: No effects on existing land uses; no incompatibility with existing land uses. Mitigation Measures: None. Impact Avoidance and Minimization Measures: None.	Impacts: Alternative 1 would expand the density and area of developed uses on SSTC-South but would not introduce incompatible land uses or be incompatible with existing land uses. Land use effects would not be significant. All off-site improvements (traffic and access and utility) would occur within infrastructure (roadways and utility) rights-of-way and corridors and would not have a significant land use impact. No recreational facilities on or off the installation would be adversely affected. Mitigation Measures: None. Impact Avoidance and Minimization Measures: None.	Impacts: Alternative 2, similar to Alternative 1, would expand the density and area of developed uses on SSTC-South but would not introduce incompatible land uses or be incompatible with existing land uses. Land use effects would not be significant. All off-site improvements (traffic and access and utility) would occur within infrastructure (roadways and utility) rights-of-way and corridors and would not have a significant land use impact. No recreational facilities on or off the installation would be adversely affected. Mitigation Measures: None. Impact Avoidance and Minimization Measures: None.	Impacts: Alternative 3, similar to Alternative 2, would expand the density and area of developed uses on SSTC-South but would not introduce incompatible land uses or be incompatible with existing land uses. The proposed facilities at NAB Coronado (P-904, P-912, and P-965) and NASNI (portion of P-870) would be developed in the footprints of existing buildings, consistent with the existing land use. Land use effects would not be significant. All off-site improvements (traffic and access and utility) would occur within infrastructure (roadways and utility) rights-of-way and corridors and would not have a significant land use impact. No recreational facilities on or off the installation would be adversely affected. Mitigation Measures: None. Impact Avoidance and Minimization Measures: None.

Resource	No Action Alternative	Alternative 1 (Preferred Alternative)	Alternative 2	Alternative 3
3.2 Geology and Soils	Impacts: No effects on geology and soils; no effect from geological hazards. Mitigation Measures: None. Impact Avoidance and Minimization Measures: None.	Impacts: Changes in topography would be relatively minor involving construction site leveling. SSTC-South possesses highly erodible soils. Strong seismically induced ground motion and associated ground shaking could occur. Adverse effects attributable to liquefaction and settlement are considered minor. Alternative 1 development would mostly occur outside the tsunami inundation area. No significant risk of seiches and landslides occurring. No significant geology and soils impacts would occur. Mitigation Measures: None. Impact Avoidance and Minimization Measures: • Prepare a detailed demolition plan for Building 99. • Compliance with the seismic design criteria identified in Uniform Building Code, the Naval Facilities Engineering Command (NAVFAC) P-355 Seismic Design Manual, and the design	Impacts: The geology and soils impacts would be the same as Alternative 1. Mitigation Measures: None. Impact Avoidance and Minimization Measures: • Compliance with the seismic design criteria identified in Uniform Building Code, the NAVFAC P-355 Seismic Design Manual, and the design specifications criteria of the Structural Engineering Association of California. • Prepare and comply with geotechnical studies that would be conducted for the Coastal Campus overall and/or all MILCON construction sites during project design. • Implement erosion control measures after construction. • Prepare a project-specific NPDES General Construction Permit and a SWPPP.	Impacts: The geology and soils impacts at SSTC-South would be the same as Alternative 1. The construction of the MILCONs on NAB Coronado and NASNI would occur on flat already developed areas with similar geology and soils impacts as described for SSTC-South. No significant geology and soils impacts would occur. Mitigation Measures: None. Impact Avoidance and Minimization Measures: These measures would be the same as for Alternative 2.

Resource	No Action Alternative	Alternative 1 (Preferred Alternative)	Alternative 2	Alternative 3
		specifications criteria of the Structural Engineering Association of California. • Prepare and comply with geotechnical studies that would be conducted for the Coastal Campus overall and/or for all MILCON construction sites during project design. • Implement erosion control measures after construction. • Prepare a project-specific National Pollutant Discharge Elimination System (NPDES) General Construction Permit and a Storm Water Pollution Prevention Plan (SWPPP).		
3.3 Air Quality	Impacts: No new construction or operational pollutant emissions sources would be generated; therefore, local and regional air quality would not be affected. Mitigation Measures: None. Impact Avoidance and Minimization Measures:	Impacts: Annual emissions would be less than *de minimis* levels in the San Diego Air Basin (SDAB); therefore, Alternative 1 would conform to the State Implementation Plan (SIP), and a formal conformity determination would not be required. The estimated annual Proposed Action emissions of all pollutants (volatile	Impacts: Annual emissions would be less than *de minimis* levels in the SDAB; therefore, Alternative 2 would conform to the SIP, and a formal conformity determination would not be required. The estimated annual Proposed Action emissions of all pollutants (VOCs, NO_X, CO, SO_X, PM_{10}, and $PM_{2.5}$) for Alternative 2 in 2015 through 2024 would be less	Impacts: Annual emissions would be less than *de minimis* levels in the SDAB; therefore, Alternative 3 would conform to the SIP, and a formal conformity determination would not be required. The estimated annual Proposed Action emissions of all pollutants (VOCs, NO_X, CO, SO_X, PM_{10}, and $PM_{2.5}$) for Alternative 3 in 2015 through 2024 would be less

Resource	No Action Alternative	Alternative 1 (Preferred Alternative)	Alternative 2	Alternative 3
	None.	organic compounds [VOCs], nitrogen oxide [NO_X], carbon monoxide [CO], oxides of sulfur [SO_X], and particulate matter [PM_{10} and $PM_{2.5}$]) for Alternative 1 in 2015 through 2024 would be less than the Prevention of Significant Deterioration (PSD) emissions rate thresholds. The air quality impacts would not be significant. Mitigation Measures: None. Impact Avoidance and Minimization Measures: To control fugitive dust and exhaust emissions and to minimize dust during demolition, grading and earthwork operations, and construction: • Implement best available control measures (BACM) in accordance with Chief of Naval Operations Instruction (OPNAVINST) 5090.1D, and applicable state (i.e., APCD) regulations. • Water all active construction areas at least twice daily. • Cover all trucks hauling	than the PSD emissions rate thresholds. The air quality impacts would not be significant. Mitigation Measures: None. Impact Avoidance and Minimization Measures: To control fugitive dust and exhaust emissions and to minimize dust during demolition, grading and earthwork operations, and construction: • Implement BACM in accordance with OPNAVINST 5090.1D, and applicable state (i.e., APCD) regulations. • Water all active construction areas at least twice daily. • Cover all trucks hauling soil, sand, and other loose materials, or require all trucks to maintain at least 2 feet of freeboard. • Pave, apply water twice daily, or apply (nontoxic) soil stabilizers on all unpaved access roads, parking areas, and staging areas at construction sites. • Sweep streets daily (with water sweepers) if visible soil material is carried onto	than the PSD emissions rate thresholds. The air quality impacts would not be significant. Mitigation Measures: None. Impact Avoidance and Minimization Measures: To control fugitive dust and exhaust emissions and to minimize dust during demolition, grading and earthwork operations, and construction, the measures proposed for Alternative 2 would also apply to Alternative 3.

Resource	No Action Alternative	Alternative 1 (Preferred Alternative)	Alternative 2	Alternative 3
		soil, sand, and other loose materials, or require all trucks to maintain at least 2 feet of freeboard. • Pave, apply water twice daily, or apply (nontoxic) soil stabilizers on all unpaved access roads, parking areas, and staging areas at construction sites. • Sweep streets daily (with water sweepers) if visible soil material is carried onto adjacent paved streets. • Prepare a detailed demolition plan to identify measures to break up, reuse to the maximum extent practical, and haul away the debris from the demolition of Building 99 and other structures. • Incorporate abatement measures if asbestos-containing building materials or lead-based paint is determined to be present during demolition.	adjacent paved streets. • Prepare a detailed demolition plan to identify measures to break up, reuse to the maximum extent practical, and haul away the debris from the demolition of structures. • Incorporate abatement measures if asbestos-containing building materials or lead-based paint is determined to be present during demolition.	
3.4 Hazardous Materials and Waste	Impacts: No changes to hazardous materials or hazardous waste use, transport, storage, or disposal would	Impacts: The quantity of hazardous materials transported to SSTC-South and the hazardous materials at	Impacts: The Alternative 2 hazardous materials, hazardous waste, USTs and IR sites impacts would be the same as	Impacts: The amount of hazardous materials used and the quantity of hazardous materials transported to

Resource	No Action Alternative	Alternative 1 (Preferred Alternative)	Alternative 2	Alternative 3
	occur. No hazardous materials and hazardous waste impacts would occur under the No Action Alternative. Mitigation Measures: None. Impact Avoidance and Minimization Measures: None.	SSTC-South would increase. However, the maximum quantities of these materials stored on-site would not increase, because the use increase would not trigger the need for expanded storage facilities. There would be a temporary increase in production of hazardous waste due to demolition and construction activities, however, contractors would be required to properly store, transport, and dispose of their hazardous waste so that there would be a minimal risk to human health or the environment. Although all former underground storage tanks (UST) have received regulatory closure, Alternative 1 has the potential to disturb the subsurface in the area of the former USTs which increases the risks to human health and the environment during excavation, transportation, and disposal. There are two Installation Restoration (IR) sites (IR Sites 10 and 11) at SSTC-South. IR Site 10 (rubble disposal area),	Alternative 1. Overall, Alternative 2 would not result in any significant hazardous materials and waste impacts. Mitigation Measures: None. Impact Avoidance and Minimization Measures: Same as Alternative 1.	SSTC-South, NAB Coronado, and NASNI along SR-75 would increase. However, the maximum quantities of these materials stored on-site would not increase, because the use increase would not trigger the need for expanded storage facilities. Wastes from demolition and construction activities at SSTC-South, NAB Coronado, and NASNI include waste from petroleum products, coolants, water, and residual petroleum contamination in soil at former USTs and IR Sites. Alternative 3 would include retention of Building 99 similar to Alternative 2. Therefore, under Alternative 3, the impacts with regard to hazardous waste would be the same as Alternative 2. Although all former UST have received regulatory closure, Alternative 3 has the potential to disturb the subsurface in the area of the former USTs which increases the risks to human health and the environment during excavation, transportation, and disposal. Similar to Alternative 1, IR Sites 10 and 11 at SSTC-

Resource	No Action Alternative	Alternative 1 (Preferred Alternative)	Alternative 2	Alternative 3
		located northeast of the Wullenweber Antenna Array, was granted No Further Action by the Regional Water Quality Control Board. IR Site 11 (asbestos), located near Building 100, was recommended for No Further Action and it has been closed. IR Sites 10 and 11 pose minimal risk to human health or the environment under Alternative 1. Alternative 1 would not result in any significant hazardous materials and waste impacts. <u>Mitigation Measures</u>: None. <u>Impact Avoidance and Minimization Measures</u>: • Comply with Navy's general instructions (e.g., OPNAVINST 5100.23) to ensure that hazardous materials and hazardous waste are stored and handled appropriately. • Compliance with the Navy's current mitigation measures including Hazardous Waste Management Plan, NBC		South pose minimal risk to human health or the environment under Alternative 3. There are five IR sites (IR Sites 1 through 5) at NAB Coronado; and 12 sites (IR Sites 1 through 12) at NASNI. Only IR Sites 1 through 4 for NAB Coronado and IR Site 10 for NASNI are near the proposed Alternative 3 development. At NAB Coronado, IR Site 1 (Building 603 disposal pit) is located along the oceanside shore on the northwestern corner of NAB Coronado with current status of No Further Action. IR Site 2 (Old Refuse Disposal and Burn Area) is located near the bayside shore of NAB Coronado and overlaps geographically with IR Site 4. This site is undergoing further investigation. IR Site 3 (New Paint Shop Site) is located near the northern boundary of NAB Coronado and is undergoing further investigation. IR Site 4 (Sandblast Grit Disposal Area) is located near the bayside shore of main base NAB Coronado and overlaps geographically with IR Site 2. Further investigation is being conducted for IR Site 4. At

Resource	No Action Alternative	Alternative 1 (Preferred Alternative)	Alternative 2	Alternative 3
		Hazardous Substance Release Integrated Contingency Plan (U.S. Navy 2008a), and Regional Explosive Hazardous Waste Management Plan (U.S. Navy 2004). • Field screen (e.g., air monitoring) during construction to identify potential residual petroleum contamination. • Manage and dispose of disturbed soil or debris in the event that residual contamination is encountered in accordance with Navy guidance, and applicable state and Federal regulations. • Prior to the start of any demolition activities, contractors shall perform hazardous building materials surveys in order to identify and implement appropriate control measures during demolition to protect human health (both worker and public) and the environment. Appropriate control measures may include		NASNI, IR Site 10 (Property Disposal Area) is located at the west side of NASNI in the vicinity of Building 805. Removal action was completed in April 2005 and further actions are still being conducted. IR Sites 1 through 4 at NAB Coronado pose minimal risk to human health and the environment because of their locations relative to the proposed improvements under Alternative 3. IR Site 10 at NASNI is currently under investigation and precautions should be taken during planning and construction to prevent exposure of workers and the environment to site contaminants. Alternative 3 would not result in any significant hazardous materials and waste impacts. <u>Mitigation Measures</u>: None. <u>Impact Avoidance and Minimization Measures</u>: Same as Alternative 1.

Resource	No Action Alternative	Alternative 1 (Preferred Alternative)	Alternative 2	Alternative 3
		preparation and implementation of demolition plans, lead compliance plans, and/or asbestos abatement plans, as necessary, depending upon the results of the hazardous materials building surveys. • A plan or guidance for the contractor should be in place in the event that unforeseen materials are discovered during demolition and construction. This would include communication and follow-on action protocol. • Where possible, avoid disturbing areas of known historical UST releases and/or IR sites.		
3.5 Water Quality and Hydrology	Impacts: No new construction or operational activities would occur; therefore, water quality would not be affected. Mitigation Measures: None. Impact Avoidance and Minimization Measures: None.	Impacts: Alternative 1 would create new impervious surfaces that could alter on-site and off-site drainage patterns, which could cause undesirable increases in surface runoff flow rates or discharge volumes. Construction could result in erosion, off-site sediment transport, pollution, and construction material spills	Impacts: Alternative 2 would not result in a greater amount of impervious surfaces and associated increased runoff than Alternative 1. Similar to Alternative 1, there could be an increase in construction-related impacts to receiving water quality and the amount of pollutants entering water resources within the area. Alternative 2 proposes	Impacts: The water quality and hydrology impacts at SSTC-South would be the same as Alternative 1. Development at NAB Coronado and NASNI would occur in developed areas and would not create new impervious surfaces. Similar for Alternative 1, construction at NAB Coronado and NASNI could result in erosion, off-

Resource	No Action Alternative	Alternative 1 (Preferred Alternative)	Alternative 2	Alternative 3
		that could impact receiving water quality. Operation could increase the potential for pollutant loading into surrounding water bodies. Alternative 1 proposes improvements to the existing storm water drainage system to accommodate increases in runoff. Improvements could result in construction-related impacts to receiving waters. No significant water quality and hydrology impacts would occur. <u>Mitigation Measures</u>: None. <u>Impact Avoidance and Minimization Measures</u>: • Impacts would be avoided by implementation of a project-specific SWPPP with BMPs. • All new facilities construction would include sustainable designs (i.e., Low Impact Development [LID], energy efficient design, and integrated layout). • Construction and postconstruction activities would adhere	improvements to the existing storm water drainage system to accommodate increases in runoff. No significant water quality and hydrology impacts would occur. <u>Mitigation Measures</u>: None. <u>Impact Avoidance and Minimization Measures</u>: Same as Alternative 1.	site sediment transport, pollution, and construction material spills that could impact receiving water quality. With the incorporation of the below measures, no significant water quality impacts would occur. <u>Mitigation Measures</u>: None. <u>Impact Avoidance and Minimization Measures</u>: Same as Alternative 1.

Resource	No Action Alternative	Alternative 1 (Preferred Alternative)	Alternative 2	Alternative 3
		to Federal, state, and local standards, as well as the measures specified in Section 5.5. By successfully complying with these measures, runoff during construction and postconstruction operations would be minimized and treated through LID, site design, and/or structural BMPs mandated by these measures.		
3.6 Noise	Impacts: No new construction or operational noise sources would be generated; therefore, ambient noise levels would not be affected and no noise impacts would occur. Mitigation Measures: None. Impact Avoidance and Minimization Measures: None.	Impacts: Under Alternative 1, demolition of existing facilities and infrastructure and the construction and operations of new facilities and infrastructure would add to the noise levels of the existing activities on SSTC-South and the area's ambient noise levels, which are characteristic of the urban environment and transportation activities (port and aviation) of the area. Alternative 1 would include the demolition of Building 99 in 2015–2016, which would generate noise from concrete drilling and sawing, blasting, concrete breaking, stockpiling, and truck	Impacts: Alternative 2 would retain Building 99; therefore, the associated demolition and hauling noise described for Alternative 1 would not occur. All other construction and operation noise would be similar to Alternative 1. Therefore, Alternative 2 would not have a significant impact to noise. Mitigation Measures: None. Impact Avoidance and Minimization Measures: To reduce noise impacts associated with project-related demolition activities, a detailed demolition plan would be prepared including	Impacts: Under Alternative 3, construction and operations of new facilities would be similar to Alternatives 1 and 2. Alternative 3 would include retention of Building 99 generating noise levels similar to Alternative 2. Construction and operations of Alternative 3 would not result in any significant noise impacts at NAB Coronado or NASNI. Therefore, Alternative 3 would not have a significant impact to noise. Mitigation Measures: None. Impact Avoidance and Minimization Measures: To reduce noise impacts

Resource	No Action Alternative	Alternative 1 (Preferred Alternative)	Alternative 2	Alternative 3
		hauling off-site. Temporary worst-case 8-hour averaged construction noise would be approximately 62 dBA at the Coronado Cays and 60 dBA at Imperial Beach. U.S. Navy and City of Imperial Beach regulations do not limit decibel levels of construction noise; however, the City of Coronado (Coronado Cays) limits daytime construction noise levels to 75 dBA L_{eq} and restricts construction noise to between 7:00 AM and 7:00 PM. The City of Imperial Beach prohibits construction noise at night between 10:00 PM and 7:00 AM. Nighttime construction is not likely to occur. Operation of Alternative 1 (i.e., facilities use and vehicle traffic) would increase ambient noise levels on SSTC-South; however, the increase would not result in a substantial increase in ambient noise levels; result in incompatible land use; or violate Federal, Navy, state, regional, or local noise standards or	public notification and complaint protocol.	associated with project-related demolition activities, a detailed demolition plan would be prepared including public notification and complaint protocol.

Resource	No Action Alternative	Alternative 1 (Preferred Alternative)	Alternative 2	Alternative 3
		requirements. Therefore, Alternative 1 would not have a significant impact to noise. Mitigation Measures: None. Impact Avoidance and Minimization Measures: To reduce noise impacts associated with project-related demolition activities, a detailed demolition and blasting plan for Building 99 would be prepared including public notification and complaint protocol.		
3.7 Biological Resources	Impacts: No impacts to biological resources. Mitigation Measures: None. Impact Avoidance and Minimization Measures: None.	Impacts: Alternative 1 would result in permanent direct impacts to 100 percent (166.85 acres) of the plant communities and cover types within the Proposed Action footprint. An additional 4.33 acres would be temporarily impacted through utility easements, of which 0.01 acre is jurisdictional waters. Additionally, there would be a loss of 0.15 acre of critical habitat for the Western Snowy Plover (*Charadrius nivosus nivosus*) from construction of the proposed entry control point	Impacts: Alternative 2 would result in permanent direct impacts to 100 percent (162.25 acres) of the plant communities and cover types within the Proposed Action footprint. An additional 4.33 acres would be temporarily impacted through utility easements, of which 0.01 acre is jurisdictional waters. Additionally, there would be a loss of 0.15 acre of critical habitat for the Western Snowy Plover from construction of the proposed entry control point and supporting road improvements. Alternative 2	Impacts: Alternative 3 would result in permanent direct impacts to 100 percent (171.2 acres) of the plant communities and cover types within the Proposed Action footprint. An additional 4.33 acres would be temporarily impacted through utility easements, of which 0.01 acre is jurisdictional waters. Additionally, there would be a loss of 0.15 acre of critical habitat for the Western Snowy Plover from construction of the proposed entry control point and supporting road

Resource	No Action Alternative	Alternative 1 (Preferred Alternative)	Alternative 2	Alternative 3
		and supporting road improvements. Alternative 1 has the potential to result in significant impacts to biological resources due to a loss of critical habitat for the Western Snowy Plover. Alternative 1 will have no effect on the following species: California Least Tern (*Sternula antillarum browni*), Least Bell's Vireo (*Vireo bellii pusillus*), Coastal California Gnatcatcher (*Polioptila californica californica*), and Pacific pocket mouse (*Perognathus longimembris pacificus*). Additionally, there are no anticipated adverse effects to any nonfederally listed rare or sensitive wildlife species, or wildlife corridors. Consistent with the USFWS Informal Consultation Concurrence Letter (FWS-SDG-14B0200-14I0295), the Federal Endangered Species Act determinations for the following species may affect but are not likely to adversely affect salt marsh bird's beak (*Chloropyron maritimum* ssp. *maritimum*), San Diego fairy shrimp (*Branchinecta*	has the potential to result in significant impacts to biological resources due to a loss of critical habitat for the Western Snowy Plover. Alternative 2 will have no effect on the following species: California Least Tern, Least Bell's Vireo, Coastal California Gnatcatcher, and Pacific pocket mouse. Additionally, there are no anticipated adverse effects to any nonfederally listed rare or sensitive wildlife species, or wildlife corridors. Consistent with the USFWS Informal Consultation Concurrence Letter (FWS-SDG-14B0200-14I0295), the Federal Endangered Species Act determinations for the following species may affect but are not likely to adversely affect salt marsh bird's beak (*Chloropyron maritimum* ssp. *maritimum*), San Diego fairy shrimp (*Branchinecta sandiegoensis*), Light-footed Ridgway's Rail (*Rallus obsoletus levipes*), Western Snowy Plover, and critical habitat for the Western Snowy Plover. <u>Mitigation Measures</u>:	improvements. Alternative 3 has the potential to result in significant impacts to biological resources due to a loss of critical habitat for the Western Snowy Plover. Since no sensitive biological resources occur within or adjacent to the project areas on NASNI or NAB Coronado, there would be no significant impacts to biological resources. Alternative 3 will have no effect on the following species: California Least Tern, Least Bell's Vireo, Coastal California Gnatcatcher, and Pacific pocket mouse. Additionally, there are no anticipated adverse effects to any nonfederally listed rare or sensitive wildlife species, or wildlife corridors. Consistent with the USFWS Informal Consultation Concurrence Letter (FWS-SDG-14B0200-14I0295), the Federal Endangered Species Act determinations for the following species may affect but are not likely to adversely affect salt marsh bird's beak (*Chloropyron maritimum* ssp. *maritimum*), San Diego fairy shrimp (*Branchinecta sandiegoensis*), Light-footed

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		sandiegoensis), Light-footed Ridgway's Rail (*Rallus obsoletus levipes*), Western Snowy Plover, and critical habitat for the Western Snowy Plover. Mitigation Measures: None. Impact Avoidance and Minimization Measures: Measures would be implemented per the terms of USFWS Informal Consultation Concurrence Letter (FWS-SDG-14B0200-14I0295) received 12 September 2014. Sections 5.7.1 through 5.7.3.	None. Impact Avoidance and Minimization Measures: Measures would be implemented per the terms of USFWS Informal Consultation Concurrence Letter (FWS-SDG-14B0200-14I0295) received 12 September 2014. Sections 5.7.1 through 5.7.3.	Ridgway's Rail (*Rallus obsoletus levipes*), Western Snowy Plover, and critical habitat for the Western Snowy Plover. Mitigation Measures: None. Impact Avoidance and Minimization Measures: Measures would be implemented per the terms of USFWS Informal Consultation Concurrence Letter (FWS-SDG-14B0200-14I0295) received 12 September 2014. Sections 5.7.1 through 5.7.3.
3.8 Cultural Resources	Impacts: No effects to cultural resources. Mitigation Measures: None. Impact Avoidance and Minimization Measures: None.	Impacts: Demolition of Building 99, a contributor to the NRHP-eligible Fort Emory Coastal Defense Historic District would constitute an adverse effect to this historic property. The proposed ground-disturbing off-site traffic, access, and utilities improvements have the potential to impact cultural resources. Mitigation Measures: In accordance with 36	Impacts: The proposed ground-disturbing off-site traffic, access, and utilities improvements have the potential to impact cultural resources. Mitigation Measures: Mitigation measures would not be required under a finding of no adverse effect. Impact Avoidance and Minimization Measures: Alternative 2 would be developed in compliance with NHPA Section 106 under the	Impacts: The proposed ground-disturbing off-site traffic, access, and utilities improvements have the potential to impact cultural resources. Mitigation Measures: Mitigation measures would not be required under a finding of no adverse effect. Impact Avoidance and Minimization Measures: Alternative 3 would be developed in compliance with NHPA Section 106 under the

Resource	No Action Alternative	Alternative 1 (Preferred Alternative)	Alternative 2	Alternative 3
		C.F.R. 800.6, resolution of the adverse effect to the Fort Emory Coastal Defense Historic District was defined during the Section 106 consultation with SHPO, the Advisory Council on Historic Preservation, and other consulting parties through development and execution of a Memorandum of Agreement (MOA). Actions stipulated in the MOA for resolving the adverse effect would be required to be completed in advance of the initiation of the undertaking activities creating the adverse effect. <u>Impact Avoidance and Minimization Measures</u>: Alternative 1 would be developed in compliance with NHPA Section 106 under the NBC PA, as implemented through the NBC ICRMP. Potential impacts to cultural resources from proposed ground-disturbing off-site traffic, access, and utilities improvements would be addressed through the following measures:	NBC PA, as implemented through the NBC ICRMP. Potential impacts to cultural resources from proposed ground-disturbing off-site traffic, access, and utilities improvements would be addressed through the following measures: Cultural-1: The Navy would coordinate with State Parks and Caltrans for cultural resources surveys for the proposed ground-disturbing off-site traffic and access improvements. Cultural-2: A Monitoring and Discovery Plan would be prepared and implemented prior to the start of ground-disturbing construction activities. Cultural-3: Cultural resources monitoring would be required during mechanical excavation associated with the off-site traffic, access, and utilities improvements. Cultural-4: The accidental discovery of human remains during mechanical excavation would be addressed in compliance	NBC PA, as implemented through the NBC ICRMP. Potential impacts to cultural resources from proposed ground-disturbing off-site traffic, access, and utilities improvements would be addressed through the following measures: Cultural-1: The Navy would coordinate with State Parks and Caltrans for cultural resources surveys for the proposed ground-disturbing off-site traffic and access improvements. Cultural-2: A Monitoring and Discovery Plan would be prepared and implemented prior to the start of ground-disturbing construction activities. Cultural-3: Cultural resources monitoring would be required during mechanical excavation associated with the off-site traffic, access, and utilities improvements. Cultural-4: The accidental discovery of human remains during mechanical excavation would be addressed in compliance

Resource	No Action Alternative	Alternative 1 (Preferred Alternative)	Alternative 2	Alternative 3
		Cultural-1: The Navy would coordinate with State Parks and Caltrans for cultural resources surveys for the proposed ground-disturbing off-site traffic and access improvements. Cultural-2: A Monitoring and Discovery Plan would be prepared and implemented prior to the start of ground-disturbing construction activities. Cultural-3: Cultural resources monitoring would be required during mechanical excavation associated with the off-site traffic, access, and utilities improvements. Cultural-4: The accidental discovery of human remains during mechanical excavation would be addressed in compliance with NAGPRA for remains found on military Federal lands, and through consultation with the NAHC for remains found on nonmilitary Federal lands and non-Federal lands.	with NAGPRA for remains found on military Federal lands, and through consultation with the NAHC for remains found on nonmilitary Federal lands and non-Federal lands.	with NAGPRA for remains found on military Federal lands, and through consultation with the NAHC for remains found on nonmilitary Federal lands and non-Federal lands.
3.9 Traffic and Circulation	Impacts: Construction No significant impacts	Impacts: Construction The study intersections that	Impacts: Construction The study intersections that	Impacts: Construction The study intersections that

Resource	No Action Alternative	Alternative 1 (Preferred Alternative)	Alternative 2	Alternative 3
	would occur at the study intersections. <u>Year 2024</u> **1 CVN:** No significant impacts would occur at the study intersections. **2 CVNs:** No significant impacts would occur at the study intersections. **3 CVNs:** An analysis of three-CVN conditions was not performed; however, the staggered work hours required when three CVNs are in port results in conditions similar to or better than the results for two-CVN conditions. As two-CVN conditions have no significant impacts at the study intersections, it can be concluded that no significant impacts would occur at the study intersections while three CVNs are in port. <u>Year 2040</u> The impacts for 2040 would be the same as for 2024.	would have a significant impact during construction due to the addition of Alternative 1 for a "North Only" scenario are shown in Table 3.9-7 and summarized as follows: • Year 2015, 6 locations • Year 2016, 6 locations • Year 2017, 7 locations • Year 2018, 8 locations • Year 2019, 12 locations • Year 2020, 12 locations • Year 2021, 12 locations • Year 2022, 12 locations • Year 2023, 12 locations The number of study intersections that would have a significant impact during construction due to the addition of Alternative 1 for a "Construction North, Operations South" scenario is shown in Table 3.9-8 and summarized as follows: • Year 2015, 6 locations • Year 2016, 6 locations • Year 2017, 9 locations • Year 2018, 10 locations • Year 2019, 14 locations • Year 2020, 16 locations • Year 2021, 16 locations • Year 2022, 14 locations • Year 2023, 14 locations <u>Postconstruction Year 2024</u>	would have a significant impact during construction due to the addition of Alternative 2 for a "North only" scenario are shown in Table 3.9-11. The number of study intersections that would have a significant impact during construction due to the addition of Alternative 2 for a "Construction North, Operations South" scenario is shown in Table 3.9-12. The number of intersections impacted by construction traffic for Alternative 2 would be the same as described above for Alternative 1, albeit to a more severe degree. <u>Postconstruction Year 2024</u> The significant impacts at the study intersections for Alternative 2 would be identical to the findings for Alternative 1. <u>Postconstruction Year 2040</u> The significant impacts at the study intersections for Alternative 2 would be identical to the findings for Alternative 1. <u>Construction Mitigation Measures:</u> None	would have a significant impact during construction due to the addition of Alternative 3 for a "North Only" scenario are shown in Table 3.9-13 and summarized as follows: • Year 2015, 6 locations • Year 2016, 6 locations • Year 2017, 9 locations • Year 2018, 10 locations • Year 2019, 14 locations • Year 2020, 16 locations • Year 2021, 15 locations • Year 2022, 13 locations • Year 2023, 14 locations The number of study intersections that would have a significant impact during construction due to the addition of Alternative 3 for a "Construction North, Operations South" scenario is shown in Table 3.9-14 and summarized as follows: • Year 2015, 6 locations • Year 2016, 6 locations • Year 2017, 9 locations • Year 2018, 10 locations • Year 2019, 14 locations • Year 2020, 16 locations • Year 2021, 17 locations • Year 2022, 17 locations • Year 2023, 13 locations <u>Postconstruction Year 2024</u> **1 CVN:**

Resource	No Action Alternative	Alternative 1 (Preferred Alternative)	Alternative 2	Alternative 3
	Mitigation Measures: None. Impact Avoidance and Minimization Measures: None.	**1 CVN:** Five of the study intersections would have a significant impact in Year 2024 due to the addition of Alternative 1: • Silver Strand Blvd (SR-75) & Tulagi Rd • Silver Strand Blvd (SR-75) & Rainbow Dr • 9th St & Palm Ave (SR-75) • 13th St & Palm Ave (SR-75) • Saturn Blvd/19th St & Palm Ave (SR-75) **2 CVNs:** Six of the study intersections would have a significant impact in Year 2024 due to the addition of Alternative 1: • Silver Strand Blvd (SR-75) & Tulagi Rd • Silver Strand Blvd (SR-75) & Rainbow Dr • 7th St & Palm Ave (SR-75) • 9th St & Palm Ave (SR-75) • 13th St & Palm Ave (SR-75) • Saturn Blvd/19th St & Palm Ave (SR-75) **3 CVNs:** An analysis of three-CVN conditions was not	Impact Avoidance and Minimization Measures: The impact avoidance and minimization measures would be identical to those presented in Alternative 1. Postconstruction Years 2024 and 2040 Mitigation Measures: The mitigation measures would be identical to those presented in Alternative 1. Impact Avoidance and Minimization Measures: The impact avoidance and minimization measures would be identical to those presented in Alternative 1.	Five of the study intersections would have a significant impact in Year 2024 due to the addition of Alternative 3: • Silver Strand Blvd (SR-75) & Tulagi Rd • Silver Strand Blvd (SR-75) & Rainbow Dr • 9th St & Palm Ave (SR-75) • 13th St & Palm Ave (SR-75) • Saturn Blvd/19th St & Palm Ave (SR-75) **2 CVNs:** Six of the study intersections would have a significant impact in Year 2024 due to the addition of Alternative 3: • Orange Ave (SR-75) & Fourth St (SR-75) • Silver Strand Blvd (SR-75) & Tulagi Rd • Silver Strand Blvd (SR-75) & Rainbow Dr • 9th St & Palm Ave (SR-75) • 13th St & Palm Ave (SR-75) • Saturn Blvd/19th St & Palm Ave (SR-75) **3 CVNs:** An analysis of three-CVN conditions was not performed. With the staggered work hours required when three CVNs are in port, the results of the

Resource	No Action Alternative	Alternative 1 (Preferred Alternative)	Alternative 2	Alternative 3
		performed. With the staggered work hours required when three CVNs are in port, the results of the intersection analysis would be similar to or better than the results for two-CVN conditions. <u>Postconstruction Year 2040</u> **1 CVN:** Seven of the study intersections would have a significant impact in Year 2040 due to the addition of Alternative 1: • Silver Strand Blvd (SR-75) & Tulagi Rd • Silver Strand Blvd (SR-75) & Rainbow Dr • 7th Street & Palm Ave (SR-75) • 9th Street & Palm Ave (SR-75) • 13th Street & Palm Ave (SR-75) • Saturn Blvd/19th St & Palm Ave (SR-75) • I-5 SB Exit Ramp & Palm Ave (SR-75) **2 CVNs:** Eight of the study intersections would have a significant impact in Year 2040 due to the addition of Alternative 1:		intersection analysis would be similar to or better than the results for two-CVN conditions. <u>Postconstruction Year 2040</u> **1 CVN:** Seven of the study intersections would have a significant impact in Year 2040 due to the addition of Alternative 3: • Silver Strand Blvd (SR-75) & Tulagi Rd • Silver Strand Blvd (SR-75) & Rainbow Dr • 7th Street & Palm Ave (SR-75) • 9th Street & Palm Ave (SR-75) • 13th Street & Palm Ave (SR-75) • Saturn Blvd/19th St & Palm Ave (SR-75) • Palm Ave (SR-75) & I-5 SB Exit Ramp **2 CVNs:** Eight of the study intersections would have a significant impact due to the addition of Alternative 3: • Orange Ave (SR-75) & Fourth St (SR-75) • Silver Strand Blvd (SR-75) & Tulagi Rd • Silver Strand Blvd (SR-75) & Rainbow Dr

Resource	No Action Alternative	Alternative 1 (Preferred Alternative)	Alternative 2	Alternative 3
		• Silver Strand Blvd (SR-75) & Tulagi Rd • Silver Strand Blvd (SR-75) & Fiddler's Cove Dwy • Silver Strand Blvd (SR-75) & Rainbow Dr • 7th Street & Palm Ave (SR-75) • 9th Street & Palm Ave (SR-75) • 13th Street & Palm Ave (SR-75) • Saturn Blvd/19th St & Palm Ave (SR-75) • I-5 SB Exit Ramp & Palm Ave (SR-75) **3 CVNs:** An analysis of three-CVN conditions was not performed. With the staggered work hours required when three CVNs are in port, the results of the intersection analysis would be similar to or better than the results for two-CVN conditions. <u>Construction Mitigation Measures:</u> None <u>Impact Avoidance and Minimization Measures:</u> t-1: Accelerate implementation of new		• 7th Street & Palm Ave (SR-75) • 9th Street & Palm Ave (SR-75) • 13th Street & Palm Ave (SR-75) • Saturn Blvd/19th St & Palm Ave (SR-75) • Palm Ave (SR-75) & I-5 SB Exit Ramp **3 CVNs:** An analysis of three-CVN conditions was not performed. With the staggered work hours required when three CVNs are in port, the results of the intersection analysis would be similar to or better than the results for two-CVN conditions. <u>Construction Mitigation Measures:</u> None <u>Impact Avoidance and Minimization Measures:</u> The impact avoidance and minimization measures would be identical to those presented in Alternative 1. <u>Postconstruction Year 2024 Mitigation Measures:</u> The mitigation measures would be identical to those

Resource	No Action Alternative	Alternative 1 (Preferred Alternative)	Alternative 2	Alternative 3
		entry control point at SSTC-South. t-2: Include construction management in the design aspect of the Proposed Action. t-3: Coordinate construction activity with NBC representatives to monitor daily activity levels. t-4: Schedule heavy periods of vehicle activity during non-peak hours. t-5: Encourage carpooling and staggered work hours for construction workers. t-6: Notify public stakeholders of times where abnormal construction activity would occur. <u>Postconstruction Year 2024</u> <u>Mitigation Measures:</u> T-1: Modification of signal operations at Silver Strand Blvd (SR-75) & Tulagi Rd T-2: Modification of eastbound approach configuration at Silver Strand Blvd (SR-75) & Rainbow Drive T-3: Modification of northbound and southbound approach configurations at 9th Street & Palm Avenue (SR-75)		presented in Alternative 1. <u>Impact Avoidance and Minimization Measures:</u> t-1: Accelerate implementation of new entry control point at SSTC-South See Section 5.9 for more details on these measures. <u>Postconstruction Year 2040 Mitigation Measures:</u> The mitigation measures would be identical to those presented in Alternative 1. <u>Impact Avoidance and Minimization Measures:</u> t-1: Accelerate implementation of new entry control point at SSTC-South See Section 5.9 for more details on these measures.

Resource	No Action Alternative	Alternative 1 (Preferred Alternative)	Alternative 2	Alternative 3
		T-4: Removal of east leg pedestrian crossing at 13th Street & Palm Avenue (SR-75) T-5: Addition of a second westbound left-turn lane at Saturn Blvd/19th St & Palm Ave (SR-75) T-6: Modification of southbound approach configuration at 7th St & Palm Ave (SR-75) <u>Impact Avoidance and Minimization Measures:</u> t-1: Accelerate implementation of new entry control point at SSTC-South. See Section 5.9 for more details on these measures. <u>Postconstruction Year 2040</u> <u>Mitigation Measures:</u> T-1: Modification of signal operations at Silver Strand Blvd (SR-75) & Tulagi Rd. T-2: Modification of eastbound approach configuration at Silver Strand Blvd (SR-75) & Rainbow Drive. T-3: Modification of northbound and southbound approach configurations at 9th Street & Palm Avenue (SR-75).		

Resource	No Action Alternative	Alternative 1 (Preferred Alternative)	Alternative 2	Alternative 3
		T-4: Removal of east leg pedestrian crossing at 13th Street & Palm Avenue (SR-75). T-5: Addition of a second westbound left-turn lane at Saturn Blvd/19th St & Palm Ave (SR-75) T-6: Modification of southbound approach configuration at 7th St & Palm Ave (SR-75). T-7: Extend the southbound right-turn lanes at Palm Ave (SR-75) & I-5 SB Exit Ramp. T-8: Restriction of left turns out of Fiddler's Cove Driveway and Silver Strand Boulevard (SR-75). <u>Impact Avoidance and Minimization Measures:</u> t-1: Accelerate implementation of new entry control point at SSTC-South. t-2: Monitor westbound left-turn delays and safety at the intersection of Silver Strand Blvd (SR-75) & Fiddler's Cove Dwy. See Section 5.9 for more details on these measures.		
3.10 Socioeconomics and Environmental Justice	<u>Impacts</u>: No effects on socioeconomics. No	<u>Impacts</u>: Effects of the Proposed Action on socioeconomics	<u>Impacts</u>: Similar to Alternative 1, with fewer impacts associated	<u>Impacts</u>: Similar to Alternative 1, with fewer impacts associated

Resource	No Action Alternative	Alternative 1 (Preferred Alternative)	Alternative 2	Alternative 3
	disproportionately high and adverse human health and environmental effects on minority populations and low-income populations. No environmental health risks and safety risks that disproportionately affect children. Mitigation Measures: None. Impact Avoidance and Minimization Measures: None.	would be largely beneficial in terms of employment and economic output; no impacts are anticipated to population or housing. Temporary debris removal and construction-related traffic would not have a significant socioeconomic impact. Significant and unmitigable temporary traffic impacts may occur during the construction phase of the project along the transportation route between the Proposed Action footprint and I-5 in Imperial Beach. The U.S. census tracts along this corridor all contain populations with high proportions of minority and/or low-income residents. With the implementation of impact avoidance and minimization measures, however, these construction traffic impacts for Alternative 1 would not be high and adverse. Alternative 1 would not result in disproportionately high and adverse human health and environmental effects on minority populations and low-income populations.	with debris removal. Alternative 2 would have no significant socioeconomic impacts, would not result in disproportionately high and adverse human health and environmental effects on minority populations and low-income populations, and would not result in environmental health risks and safety risks that disproportionately affect children. Mitigation Measures: None Impact Avoidance and Minimization Measures: Same as for Alternative 1.	with debris removal. Alternative 3 would have no significant socioeconomic impacts, would not result in disproportionately high and adverse human health and environmental effects on minority populations and low-income populations, and would not result in environmental health risks and safety risks that disproportionately affect children. Mitigation Measures: None Impact Avoidance and Minimization Measures: Same as for Alternative 1.

Resource	No Action Alternative	Alternative 1 (Preferred Alternative)	Alternative 2	Alternative 3
		Similarly, these same census tracts contain a disproportionately large percentage of children, but with the implementation of impact avoidance and minimization measures construction traffic impacts for Alternative 1 would not present disproportionate risks to children. Alternative 1 would not result in environmental health risks and safety risks that disproportionately affect children. Mitigation Measures: None Impact Avoidance and Minimization Measures: • Pedestrian routes along the transportation corridor would be maintained or temporary alternate routes provided and clearly marked during the construction of traffic and access improvements and during the Proposed Action construction phase when traffic would be heavier than under normal conditions. • Residents in the affected census tracts would be		

Resource	No Action Alternative	Alternative 1 (Preferred Alternative)	Alternative 2	Alternative 3
		notified of increased construction traffic via direct mail and road signage. • Emergency public services and other appropriate law enforcement agencies would be notified of increased traffic and how construction traffic may affect emergency response times.		
3.11 Public Health and Safety	Impacts: No change to any public health and safety concerns. Mitigation Measures: None. Impact Avoidance and Minimization Measures: None.	Impacts: Demolition of Building 99 could include the use of small commercial explosives and/or diamond saws and drilling and hammering to break up the materials. The demolition debris would either be reused as part of the construction material for the Coastal Campus or removed to a local landfill. A detailed demolition plan would be prepared prior to demolition activities. Construction activities would be typical of military structures, would primarily occur within the footprint of SSTC-South, and would include all standard construction safety procedures. Construction activities would not result in	Impacts: Impacts would be similar to those for Alternative 1, except Alternative 2 would not include the demolition of Building 99. No significant public health and safety impacts would occur. Mitigation Measures: None. Impact Avoidance and Minimization Measures: Same as Alternative 1.	Impacts: Impacts would be the same as Alternative 2, except construction would also occur at NAB Coronado and NASNI. No significant public health and safety impacts would occur. Mitigation Measures: None. Impact Avoidance and Minimization Measures: Same as Alternative 1.

Resource	No Action Alternative	Alternative 1 (Preferred Alternative)	Alternative 2	Alternative 3
		a significant public health and safety impact. Postconstruction use activities would pose no substantial risk to public health and safety. Terrorist activity, although unlikely, would not be considered a significant impact to public health and safety. Mitigation Measures: None. Impact Avoidance and Minimization Measures: • Compliance with all standard construction safety procedures and applicable subparts of the Occupational Safety and Health Administration standards. • Preparation of a detailed demolition and lead/asbestos abatement plan. • Prior to the start of any demolition activities, contractors shall perform hazardous building materials surveys in order to identify and implement appropriate control measures during		

Resource	No Action Alternative	Alternative 1 (Preferred Alternative)	Alternative 2	Alternative 3
		demolition to protect human health (both worker and public) and the environment. Appropriate control measures may include preparation and implementation of demolition plans, lead compliance plans, and/or asbestos abatement plans, as necessary, depending upon the results of the hazardous materials building surveys. • Compliance with the NBC Installation Emergency Management Plan and its relevant supporting plans.		
3.12 Utilities and Public Services	Impacts: No change to any utilities and public services would occur and therefore no impacts would occur. Mitigation Measures: None. Impact Avoidance and Minimization Measures: None.	Impacts: *Water* The existing 16-inch/20-inch water line would adequately serve the water demand from Alternative 1 with both domestic and fire services. With the proposed water facility improvements, such as additional water storage tanks and booster pumps, there would not be a significant water supply impact. The existing 16-inch/20-inch water line may need to be relocated.	Impacts: *Water* Similar to Alternative 1, the existing 16-inch/20-inch water line would adequately serve the water demand from Alternative 2 with both domestic and fire services. Also with the proposed water facility improvements, there would not be a significant water supply impact. The existing 16-inch/20-inch water line may need to be relocated. *Wastewater*	Impacts: *Water* Similar to Alternative 1, the existing 16-inch/20-inch water line would adequately serve the water demand from Alternative 3 with both domestic and fire services and with the proposed water facility improvements. There is adequate water at NAB Coronado and NASNI. There would not be a significant water supply impact with Alternative 3. *Wastewater*

Resource	No Action Alternative	Alternative 1 (Preferred Alternative)	Alternative 2	Alternative 3
		Wastewater The City of Imperial Beach's wastewater system may not have capacity to handle the additional peak morning flows. With the installation of the required wastewater improvements (upgrades to the City's system within Silver Strand Boulevard, Calia Avenue, and Seacoast Drive to Pump Station 5 and within Imperial Beach Boulevard from 4th Street to East Lane), no significant wastewater impact would occur. *Electrical* Electrical capacity upgrades would be needed to maintain the desired primary/back-up service. The use of renewable energy would be included. With the installation of the required electrical upgrades, there would be no significant impact. *Natural Gas* New natural gas service would be connected to the line at the south gate entrance to serve the	Similar to Alternative 1, with the installation of the required wastewater improvements, no significant wastewater impact would occur. *Electrical* Similar to Alternative 1, electrical capacity upgrades would be needed to maintain the desired primary/back-up service. The use of renewable energy would be included. With the installation of the required electrical upgrades, there would be no significant impact. *Natural Gas* New natural gas service would be connected to the line at the south gate entrance with no significant natural gas impacts. *Communication* The site is served by AT&T and a new on-site Navy communication system would be constructed to serve the individual buildings within the Coastal Campus. No communication impacts would be expected for Alternative 2. *Storm Water*	Similar to Alternative 1, with the installation of the required wastewater improvements, no significant wastewater impact would occur. There is adequate wastewater capacity at NAB Coronado and NASNI. *Electrical* Similar to Alternative 1, electrical capacity upgrades would be needed to maintain the desired primary/back-up service. The use of renewable energy would be included. With the installation of the required electrical upgrades, there would be no significant impact. There is adequate electrical capacity at NAB Coronado and NASNI. *Natural Gas* New natural gas service would be connected to the line at the south gate entrance. There is adequate natural gas capacity at NAB Coronado and NASNI. There would be no significant natural gas impacts *Communication* The site is served by AT&T and a new private on-site Navy communication system

Resource	No Action Alternative	Alternative 1 (Preferred Alternative)	Alternative 2	Alternative 3
		demand from Alternative 1. No significant natural gas impacts would be expected. *Communication* The site is served by AT&T and a new on-site Navy communication system would be constructed to serve the individual buildings within the Coastal Campus. No communication impacts would be expected. *Storm Water* The Alternative 1 drainage design would maintain existing runoff patterns to the maximum extent practical, and retain all runoff on-site (zero discharge) for treatment. Runoff would be directed to different types of LID storm water treatment and storage facilities to remove various pollutants from the runoff and to store storm water for on-site infiltration and evaporation. These design features would reduce runoff volume, capture runoff pollutants on-site, provide groundwater recharge, and offer a supplemental	Similar to Alternative 1, the Alternative 2 drainage design would maintain existing runoff patterns to the maximum extent practical, and retain all runoff on-site (zero discharge) for treatment. Runoff would be directed to different types of LID storm water treatment and storage facilities to remove various pollutants from the runoff and to store storm water for on-site infil-tration and evaporation. These design features would reduce runoff volume, capture runoff pollutants on-site, provide groundwater recharge, and offer a supplemental resource for irrigation and/or graywater use in facility buildings. No significant storm water impacts would result. <u>Public Services</u> *Police* Appropriate safety and security lighting and security fencing would be installed where necessary. No significant police services impact would result. *Fire* Construction of all facilities would meet all applicable fire	would be constructed to serve the individual buildings within the Coastal Campus. There is adequate communication service at NAB Coronado and NASNI. No communication impacts would be expected for Alternative 3. *Storm Water* Storm water impacts for Alternative 3 would be the same as Alternative 1 on SSTC-South. The existing storm water systems that served the previous development at NAB Coronado and NASNI would adequately handle P-904, P-912, and P-965 and a portion of P-870, respectively. There would not be a significant storm water impact at SSTC-South, NAB Coronado, or NASNI as a result of development of Alternative 3. <u>Public Services</u> *Police* Appropriate safety and security lighting and security fencing would be installed where necessary. No significant police services impact would result.

Resource	No Action Alternative	Alternative 1 (Preferred Alternative)	Alternative 2	Alternative 3
		resource for irrigation and/or graywater use in facility buildings. No significant storm water impact would occur. <u>Public Services</u> *Police* Appropriate safety and security lighting and security fencing would be installed where necessary. No significant police services impact would result. *Fire* Construction of all facilities would meet all applicable fire codes and regulations. Project design would include appropriate and required fire safety design such as sprinkler systems, fire flow requirements, and all other necessary fire safety features. Fire protection and emergency services improvements would include one or more of the following: (1) constructing a new fire station with a structural pumper, an ambulance, and associated staffing, (2) establishing a temporary fire station with firefighting apparatus, an ambulance,	codes and regulations. Project design would include appropriate and required fire safety design such as sprinkler systems, fire flow requirements, and all other necessary fire safety features. Fire protection and emergency services improvements would include one or more of the following: (1) constructing a new fire station with a structural pumper, an ambulance, and associated staffing, (2) establishing a temporary fire station with firefighting apparatus, an ambulance, and staffing, (3) staging firefighting equipment including an ambulance at SSTC-South, (4) roving firefighting equipment including an ambulance, and (5) obtaining a deviation approval of the DoD Fire and Emergency Services Program (DoD Instruction 6055.06). These improvements would be supplemented by continued mutual aid agreements. No significant fire services impact would result. *Solid Waste* Alternative 2 would be compliant with EO 13514 and	*Fire* Construction of all facilities would meet all applicable fire codes and regulations. Project design would include appropriate and required fire safety design such as sprinkler systems, fire flow requirements, and all other necessary fire safety features. Fire protection and emergency services improvements would include one or more of the following: (1) constructing a new fire station with a structural pumper, an ambulance, and associated staffing, (2) establishing a temporary fire station with firefighting apparatus, an ambulance, and staffing, (3) staging firefighting equipment including an ambulance at SSTC-South, (4) roving firefighting equipment including an ambulance, and (5) obtaining a deviation approval of the DoD Fire and Emergency Services Program (DoD Instruction 6055.06). These improvements would be supplemented by continued mutual aid agreements. No significant fire services impact would result.

Resource	No Action Alternative	Alternative 1 (Preferred Alternative)	Alternative 2	Alternative 3
		and staffing, (3) staging firefighting equipment including an ambulance at SSTC-South, (4) roving firefighting equipment including an ambulance, and (5) obtaining a deviation approval of the DoD Fire and Emergency Services Program (DoD Instruction 6055.06). These improvements would be supplemented by continued mutual aid agreements. No significant fire services impact would result. *Solid Waste* Alternative 1 would be compliant with EO 13514 and EO 13423 specific to waste diversion, and with the SSWP and Commander, Navy Region Southwest Instruction 11350.1B requirements regarding C&D debris. C&D debris would be diverted from the landfill waste stream to the extent feasible. Materials would either be recycled or reused through a variety of potential measures dependent on type and volume of material. No significant solid waste impact would result.	EO 13423 specific to waste diversion, and with the SSWP and Commander, Navy Region Southwest Instruction 11350.1B requirements regarding C&D debris. C&D debris would be diverted from the landfill waste stream to the extent feasible. Materials would either be recycled or reused through a variety of potential measures dependent on type and volume of material. Methods could include a temporary on-site concrete batch plant and/or processing at an off-site industrial recycling facility. No significant solid waste impact would result. <u>Mitigation Measures</u>: None. <u>Impact Avoidance and Minimization Measures</u>: None.	*Solid Waste* Alternative 3 would be compliant with EO 13514 and EO 13423 specific to waste diversion, and with the SSWP and Commander, Navy Region Southwest Instruction 11350.1B requirements regarding C&D debris. C&D debris would be diverted from the landfill waste stream to the extent feasible. Materials would either be recycled or reused through a variety of potential measures dependent on type and volume of material. No significant solid waste impact would result. <u>Mitigation Measures</u>: None. <u>Impact Avoidance and Minimization Measures</u>: None.

Resource	No Action Alternative	Alternative 1 (Preferred Alternative)	Alternative 2	Alternative 3
		Mitigation Measures: None. Impact Avoidance and Minimization Measures: None.		
3.13 Coastal Uses and Resources	Impacts: No effects on existing coastal resources; no changes to public access, views, or any coastal resources. Mitigation Measures: None. Impact Avoidance and Minimization Measures: None.	Impacts: Construction effects on water quality would be temporary and not significant. Alternative 1 would not change public access and therefore no impacts to public access would result. Alternative 1 would be visually compatible with the existing building heights (up to 45 feet tall), with the exception of a paraloft structure that could be up to 120 feet tall. Existing visual setting would change, but Alternative 1 would not obstruct any scenic public viewsheds. No significant visual impact would result. The Navy prepared a coastal consistency determination for the proposed NBC Coastal Campus and the California Coastal Commission concurred with the	Impacts: Impacts would be similar to those for Alternative 1. No significant impacts to coastal uses or resources are anticipated with the implementation of Alternative 2. Mitigation Measures: None. Impact Avoidance and Minimization Measures: Implementation of the water quality measures specified in Section 5.5 and summarized in Alternative 1.	Impacts: Construction effects on water quality would be temporary and not significant. Alternative 3 would not change public access and therefore no impacts to public access would result. Alternative 3 would be visually compatible with the existing building heights (up to 45 feet tall), with the exception of a paraloft structure on the SSTC-South portion of the footprint that could be up to 120 feet tall. Existing visual setting would change, but Alternative 3 would not obstruct any scenic public viewsheds. No significant visual impact would result. No significant impacts to coastal uses or resources are anticipated with the implementation of Alternative 3. Mitigation Measures: None. Impact Avoidance and

Resource	No Action Alternative	Alternative 1 (Preferred Alternative)	Alternative 2	Alternative 3
		determination on 12 November 2014. No significant impacts to coastal uses or resources are anticipated with the implementation of Alternative 1. Mitigation Measures: None. Impact Avoidance and Minimization Measures: Implementation of the water quality measures specified in Section 5.5 and summarized below: • Implement project-specific SWPPP with BMPs relative to site-specific needs and conditions. • Include sustainable designs (i.e., LID, energy efficient design, and integrated layout).		Minimization Measures: Implementation of the water quality measures specified in Section 5.5 and summarized in Alternative 1.
3.14 Aesthetics	Impacts: No effect on aesthetics. Mitigation Measures: None. Impact Avoidance and Minimization Measures: None.	Impacts: Alternative 1 would modify viewsheds from SR-75, the Bayshore Bikeway, the Coronado Cays, and Silver Strand State Beach. It would create a more intense visual appearance, including increased nighttime lighting conditions, primarily from	Impacts: Similar to Alternative 1, Alternative 2 would modify viewsheds from SR-75, the Bayshore Bikeway, the Coronado Cays, and Silver Strand State Beach. The Alternative 2 appearance would create a more intense visual appearance, including increased nighttime lighting	Impacts: Similar to Alternative 1, Alternative 3 would modify viewsheds from SR-75, the Bayshore Bikeway, the Coronado Cays, and Silver Strand State Beach. The Alternative 3 appearance would create a more intense visual appearance, including increased nighttime lighting

Resource	No Action Alternative	Alternative 1 (Preferred Alternative)	Alternative 2	Alternative 3
		southbound SR-75 approaching the north gated entry control point. Viewshed modifications are not anticipated to be perceived as substantial, dramatic, adverse, or controversial; no significant aesthetic impact would occur. Mitigation Measures: None. Impact Avoidance and Minimization Measures: Design of the buildings would complement the appearance of surrounding areas by including: • Context-sensitive architectural treatments; applied consistently throughout the development; • Low-reflectivity building materials in natural, earth-tone colors; • Shielding of permanent outdoor lighting installed at proposed facilities that limit light trespass and ambient light pollution to achieve dark-sky compliance to the extent possible. (Additional methods to reduce light pollution [e.g., dusk-to-	conditions. Viewshed modifications would be similar to Alterative 1 and the modifications are not anticipated to be perceived as substantial, dramatic, adverse, or controversial; no significant aesthetic impact would occur. Mitigation Measures: None. Impact Avoidance and Minimization Measures: Design of the buildings would complement the appearance of surrounding areas and include the same measures discussed under Alternative 1.	conditions. Viewshed modifications would be similar to Alterative 1 and the modifications are not anticipated to be perceived as substantial, dramatic, adverse, or controversial; no significant aesthetic impact would occur. Modification to views at NAB Coronado and NASNI would be insubstantial as those base locations are currently characterized as nearly built out. Addition of one to two facilities at these locations would not be a change in character or perceptible to the average viewer, and no significant aesthetic impact would occur. Mitigation Measures: None. Impact Avoidance and Minimization Measures: Design of the buildings would complement the appearance of surrounding areas and include the same measures discussed under Alternative 1.

Resource	No Action Alternative	Alternative 1 (Preferred Alternative)	Alternative 2	Alternative 3
		dawn sensor activation, low-lumen or limited-spectrum lighting] applied as possible; light poles and light placement at lowest height practical [considering security constraints]); and • Context- and water-sensitive landscape treatments, including visual buffers consisting of earthen berms, vegetated buffers, screening trees, and right-of-way landscape improvements along public-facing adjacencies; to be approved (by NBC NRO staff).		

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Table ES-4
Mitigation Identification and Implementation

Mitigation Measure	Benefit	Evaluation Criteria	Implementation	Responsible Command	Date Implemented
Cultural Resources					
Compliance with NHPA Section 106 under the NBC Programmatic Agreement, as implemented through the signed Memorandum of Agreement and the NBC ICRMP.	Reduce or mitigate for potential effects to archaeological and historic resources.	Minimization of potential impacts to cultural resources from demolition and construction.	Implementation of measures in the signed Memorandum of Agreement, ICRMP, and PA and consultation with SHPO, ACHP, Indian Tribes, and other parties.	Host or Tenant Command, as appropriate.	Prior to construction.
Traffic and Circulation					
Implement the following measures by 2024. • Modification of signal operations at Silver Strand Blvd (SR-75) & Tulagi Rd • Modification of eastbound approach configuration at Silver Strand Blvd (SR-75) & Rainbow Dr • Modification of northbound and southbound approach configurations at 9th St & Palm Ave (SR-75) • Removal of east leg pedestrian crossing at 13th St & Palm Ave (SR-75) • Addition of a second westbound left-turn lane at Saturn Blvd/19th St & Palm Ave (SR-75) • Modification of southbound approach configuration at 7th St & Palm Ave (SR-75)	Reduce intersection traffic congestion and delays.	The post-implementation level of service for the subject intersections.	Implementation of the mitigation measures prior to the threshold year of need, either 2024 or 2040.	Host or Tenant Command, as appropriate and Caltrans and the City of Imperial Beach.	Prior to 2024 and 2040.

Mitigation Measure	Benefit	Evaluation Criteria	Implementation	Responsible Command	Date Implemented
Implement the following measures by 2040. • Extend the southbound right-turn lanes at Palm Ave (SR-75) & I-5 SB Exit Ramp. • Restriction of left turns out of Fiddler's Cove Driveway and Silver Strand Blvd (SR-75).					

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ACRONYMS AND ABBREVIATIONS

ADT	average daily traffic
AICUZ	Air Installations Compatible Use Zones
AOC	area of concern
APCD	air pollution control district
APE	Area of Potential Effects
AQMD	air quality management district
ARPA	Archaeological Resources Protection Act
ATC	Advanced Training Command
BACT	best available control technology
BAS	bird area search
BLM	Bureau of Land Management
BMP	best management practice
BO	Biological Opinion
B.P.	before present
BSA	Biological Study Area
BTC	Basic Training Command
BTEX	benzene, toluene, ethylbenzene, and xylenes
BUC	bird use count
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CalEPA	California Environmental Protection Agency
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CCC	California Coastal Commission
CCD	Coastal Consistency Determination
CCMP	California Coastal Management Program
CCND	Coastal Consistency Negative Determination
C.C.R.	California Code of Regulations
C&D	construction and demolition
CDFG	California Department of Fish and Game
CDFW	California Department of Fish and Wildlife (formerly California Department of Fish and Game)
CDFW SSC	California Department of Fish and Wildlife Species of Special Concern
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response Compensation and Liability Act
C.F.R.	Code of Federal Regulations
CH_4	methane
CNEL	community noise equivalent level
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society

CNRSW	Commander, Navy Region Southwest
CNSWC	Commander Naval Special Warfare Command
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
COMPACFLT	Commander, U.S. Pacific Fleet
CQC	close quarters combat
CQD	close quarters defense
CRHR	California Register of Historical Resources
CRM	Cultural Resources Manager
CUPA	Certified Unified Program Agency
CVN	nuclear-powered aircraft carrier
CWA	Clean Water Act
CZMA	Coastal Zone Management Act
dB	decibel
dBA	A-weighted decibel
DoD	Department of Defense
DoD PIF	Department of Defense Partners in Flight Priority Species
DoN	Department of the Navy
DODINST	DoD instructions
DTSC	Department of Toxic Substances Control
EIS	Environmental Impact Statement
EISA	Energy Independence and Security Act
EMR	electromagnetic radiation
EO	Executive Order
EOD	explosive ordnance disposal
EPCRA	Emergency Planning and Community Right to Know Act
ER,N	Environmental Restoration, Navy
ESA	Endangered Species Act
ESI	Extended Site Inspection
FEMA	Federal Emergency Management Agency
FTA	Federal Transit Administration
FHWA	Federal Highway Administration
FY	fiscal year
F&ES	Fire and Emergency Services
GHG	greenhouse gas
GIS	geographic information system
GPS	global positioning system
GWP	global warming potential
HA	Hydrologic Area
HCM	Highway Capacity Manual
HMTA	Hazardous Materials Transportation Act

HU	Hydrologic Unit
HVAC	heating, ventilation, and air conditioning
HWF	Hazardous Waste Facility
H_2S	hydrogen sulfide
I-5	Interstate 5
ICRMP	Integrated Cultural Resources Management Plan
INRMP	Integrated Natural Resources Management Plan
IR	Installation Restoration
IRP	Installation Restoration Program
ISR	intelligence, surveillance, and reconnaissance
ITE	Institute of Transportation Engineers
ITEMPO	individual tempo
kV	kilovolt
kW	kilowatt
LCP	Local Coastal Plan
LEED	Leadership in Energy and Environmental Design
L_{dn}	day/night average sound level
L_{eq}	equivalent noise level
LID	low-impact development
LLRW	low-level radioactive waste
LNAPL	light, nonaqueous-phase liquid
LOGSU	Logistics Support Unit
LOS	level of service
LUP	linear utility project
MACT	maximum available control technology
MBTA	Migratory Bird Treaty Act
MCBCP	Marine Corps Base Camp Pendleton
MCD	Mobile Communications Detachments
Metro Area PA	San Diego Metro Area Programmatic Agreement
mgd	million gallons per day
MILCON	Military Construction
MLD	most likely to be descended
mm	millimeter
MMR	Military Munitions Rule
MOA	Memorandum of Agreement
MOE	measurement of effectiveness
MOU	Memorandum of Understanding
mph	miles per hour
MS4	municipal separate storm sewer system
NAAQS	National Ambient Air Quality Standards
NAB	Naval Amphibious Base
NAGPRA	Native American Graves Protection and Repatriation Act

NAHC	Native American Heritage Commission
NALF SCI	Naval Auxiliary Landing Field San Clemente Island
NASNI	Naval Air Station North Island
NAVFAC	Naval Facilities Engineering Command
NAVFACINST	Naval Facilities Engineering Command Instructions
NAVOSH	Navy Occupational Safety and Health
NBC	Naval Base Coronado
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NO_2	nitrogen dioxide
NOAA	National Oceanic and Atmospheric Administration
NOI	Notice of Intent
NOLF IB	Naval Outlying Landing Field Imperial Beach
NO_X	nitrogen oxide
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
NRL	Navy Research Laboratory
NRO	Natural Resource Office
NSR	New Source Review
NSW	Naval Special Warfare
NSWC	Naval Special Warfare Command
NSWCEN	Naval Special Warfare Center
NSWG	NSW Group
NTCRA	non-time critical removal action
OPA	Oil Pollution Act
OPNAV	Chief of Naval Operations
OPNAVINST	Chief of Naval Operations Instruction
OU	operable unit
PA	Programmatic Agreement
PAH	polyaromatic hydrocarbon
PCB	polychlorinated biphenyls
PCE	primary constituent element
PERSTEMPO	personnel tempo
PM	particulate matter
PM_{10}	inhalable particulates, equal to or smaller than 10 microns in diameter
$PM_{2.5}$	fine particulates, equal to or smaller than 2.5 microns in diameter
PPA	Pollution Prevention Act
ppm	parts per million
PSD	Prevention of Significant Deterioration
PWC	Public Works Center
QDR	Quadrennial Defense Review
QSD	Qualified Storm Water Pollution Prevention Plan Developer
QSP	Qualified Storm Water Pollution Prevention Plan Practitioner

RCRA	Resource Conservation and Recovery Act
RFA	RCRA facility assessment
ROD	Record of Decision
ROI	Region of Influence
RONA	Record of Non-Applicability
RSEPA	Range Sustainability Environmental Program Assessment
RTSWS	Remote Training Site Warner Springs
RV	recreational vehicle
RWQCB	Regional Water Quality Control Board
SAM	Site Assessment and Mitigation
SAM	Social Accounting Matrices
SANDAG	San Diego Association of Governments
SANTEC	San Diego Traffic Engineering Council
SBT	Special Boat Team
SCAPS	Site Characterization and Analysis Penetrometer System
SDAB	San Diego Air Basin
SDG&E	San Diego Gas and Electric
SDUPD	San Diego Unified Port District
Seabees	Naval Construction Battalion
SEAL	Sea, Air, and Land
SECNAVINST	Secretary of the Navy Instruction
SERE	Survival, Evasion, Resistance and Escape
SHPO	California State Historic Preservation Officer
SIP	State Implementation Plan
SMARTS	Stormwater Multi-Application and Report Tracking System
SO_2	sulfur dioxide
SOF	Special Operations Force
SO_X	oxides of sulfur
SPCC	Spill Prevention, Control, and Countermeasure
SMAQMD	Sacramento Metropolitan Air Quality Management District
SR	State Route
SSTC	Silver Strand Training Complex
SSWP	Sustainable Solid Waste Program
SUPPACT	Support Activity
SWCC	Special Warfare Combatant-Craft Crewmen
SWMU	solid waste management unit
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAC	toxic air contaminant
TCRA	time-critical removal action
THPO	Tribal Historic Preservation Officer
TMDL	Total Maximum Daily Load
TRADET	Training Detachment
TSCA	Toxic Substances Control Act

UAS	Unmanned Aerial System
UAV	Unmanned Aerial Vehicle
UFC	Unified Facilities Criteria
ULT	unit-level training
USACE	U.S. Army Corps of Engineers
U.S.	United States
U.S.C.	United States Code
USEPA	U. S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USFWS BCC	U.S. Fish and Wildlife Service Birds of Conservation Concern
USGS	U.S. Geological Survey
USSOCOM	U.S. Special Operations Command
UST	underground storage tank
UXO	unexploded ordnance
VEPR	vacuum enhanced product recovery
VOC	volatile organic compound
WDR	waste discharge requirement
WWII	World War II

CHAPTER 1.0
PURPOSE AND NEED FOR THE PROPOSED ACTION

1.1 INTRODUCTION

The United States (U.S.) Department of the Navy (Navy) prepared this Environmental Impact Statement (EIS) to evaluate the potential environmental effects of developing an academic campus to support the current and future operational readiness of personnel with the Naval Special Warfare Command (NSWC) on Naval Base Coronado (NBC) in San Diego County, California. The proposed NBC Coastal Campus would include a mix of instructional and administrative facilities that would support logistics, operations, training, and administration.

Specific proposed actions within the NBC Coastal Campus proposal are (1) evaluation of current land use and available facilities; (2) augmentation by design and construction of new facilities to support logistics, equipment use (and equipment maintenance) training, classroom and tactical skills instruction, storage, and administration; and (3) design and build of related site improvements that may include new infrastructure (e.g., upgraded utilities, fencing, roads, and parking). Site preparation for construction, such as demolition of existing infrastructure (e.g., buildings and roads) and site grading and leveling, would also be included. All facilities and infrastructure would be maintained as necessary after development. Details of the Proposed Action and alternatives are presented in Chapter 2.

The type of training proposed for the NBC Coastal Campus would include equipment use and equipment maintenance training, classroom and tactical skills instruction, and physical conditioning. Outdoor training at the Silver Strand Training Complex (SSTC) was previously analyzed in compliance with the National Environmental Policy Act (NEPA) in the Silver Strand Training Complex EIS (U.S. Navy 2011b), and related in-water training was previously analyzed in compliance with NEPA in the Southern California Range Complex EIS/Overseas EIS (U.S. Navy 2009a) and the Final Hawaii-Southern California Training and Testing EIS/Overseas EIS (U.S. Navy 2013a). The type of training proposed for the NBC Coastal Campus would include equipment use and equipment maintenance training, classroom and tactical skills instruction, and physical conditioning.

This EIS was prepared in compliance with NEPA, which is found at 42 U.S. Code (U.S.C.) §§ 4321–4370h. The Regulations for Implementing NEPA, which are promulgated by the President's Council on Environmental Quality (CEQ), are found at 40 Code of Federal Regulations (C.F.R.) §§ 1500–1508. The Navy's Procedures for Implementing NEPA are found at 32 C.F.R. § 775. The Commanding Officer, NBC and the Commander, NSWC are joint action proponents for this EIS. This EIS analyzes environmental impacts resulting from the potential academic campus, which would include a mix of instructional and administrative facilities that would support logistics, operations, training, and administration at NBC, along with associated site and infrastructure improvements.

1.2 BACKGROUND

This section provides a background discussion of the growth of Naval Special Warfare (NSW) and the organization of NSWC.

1.2.1 The Growth of Naval Special Warfare

The Global War on Terrorism following the events of 11 September 2001 signaled the need for, and ultimately led to, an increase in the demand for Special Operations Force (SOF) capabilities, including NSW, the maritime component of the U.S. Special Operations Command (USSOCOM). This increase resulted in a need for more personnel and more equipment, putting a strain on existing facilities.

In response to ever-increasing wartime requirements, Congress mandated the expansion of USSOCOM SOF personnel through the 2006 and 2010 Quadrennial Defense Reviews (QDRs). Every 4 years, a QDR is conducted by the U.S. Department of Defense (DoD) to help shape the process of change to provide the U.S. with strong, sound, and effective warfighting capabilities in the decades ahead.

The 2006 QDR recommended a 15 percent increase of SOF personnel and a 33 percent increase of SOF Battalions for Fiscal Year 2007. Specifically, the Navy was directed to support an increase in Special Warfare Operators or Sea, Air, and Land (SEAL) team personnel and to develop riverine (river-type environments) warfare capabilities (DoD 2006). NSWC experienced substantial growth to meet the global operational demands for special operatives, which resulted in a further strain on existing facilities.

The 2010 QDR provided an update to the 2006 QDR and contained a number of SOF-related directives pertaining to personnel, organizations, and equipment (DoD 2010). Specifically, SOF is to perform the following:

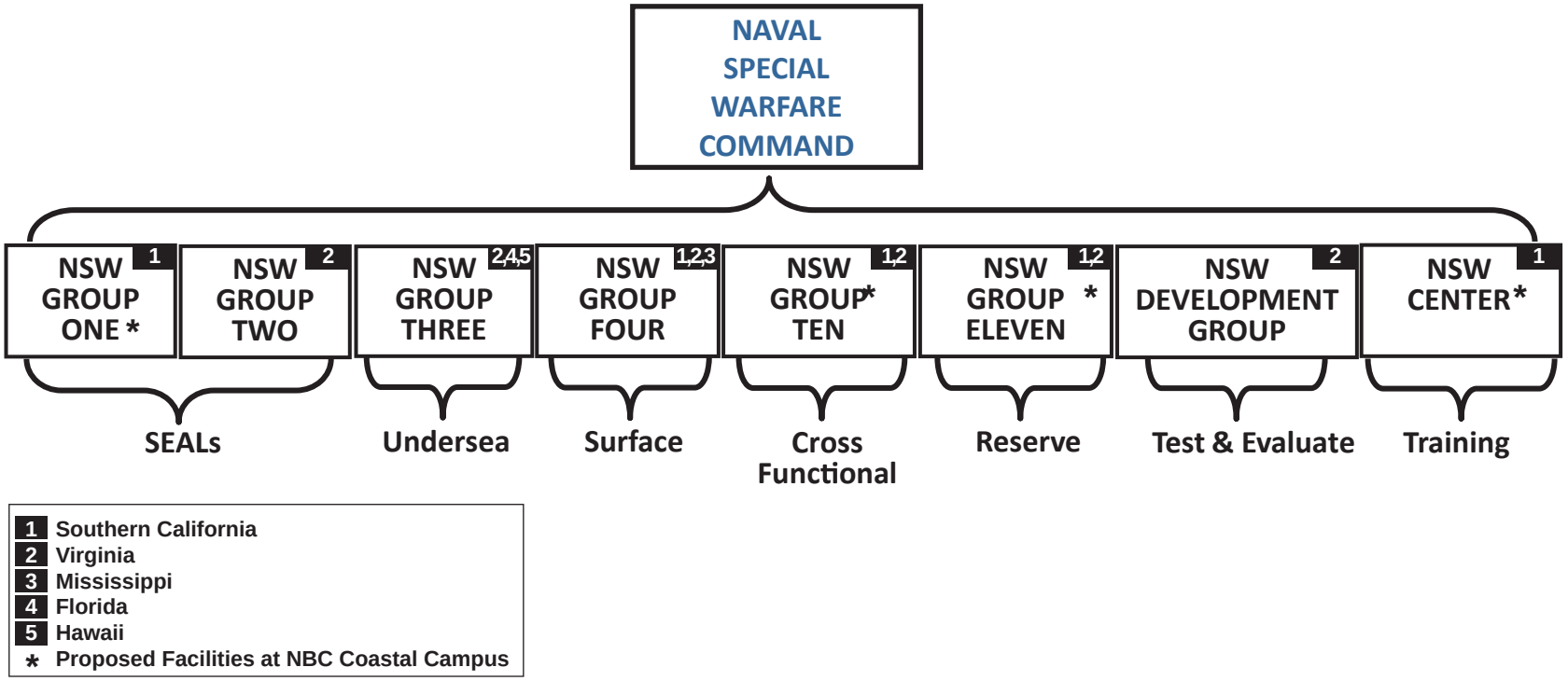
- Maintain approximately 660 special warfare teams (these teams include Army Special Forces Operational Detachment-Alpha teams, Navy SEAL teams, Marine special warfare teams, Air Force special tactics teams, and operational aviation detachments); and
- Increase key enabling assets for SOF.

From a pre-9/11 force strength of approximately 5,900, with QDR and USSOCOM directed growth, NSW will reach a force strength of approximately 11,000 by the end of 2015. NSW is composed of active duty Special Warfare Operators, or SEALs; Special Warfare Boat Operators, also known as Special Warfare Combatant-Craft Crewmen (SWCC); reserve personnel; support personnel; and civilians. Existing facilities cannot adequately support current force strength, let alone growth that is programmed to occur in the immediate future.

1.2.2 Organization of NSWC

NSW is organized by Command, Groups, and Center (Figure 1-1). Even-numbered SEAL teams are located on the east coast (Little Creek, Virginia) and odd-numbered SEAL teams are located on the west coast (San Diego, California). NSWC is located at Naval Amphibious Base (NAB) Coronado and directs the Navy's SOF. It is the lead maritime component of USSOCOM, headquartered at MacDill Air Force Base in Tampa, Florida. The NSWC mission is to organize, train, man, equip, educate, sustain, and maintain combat readiness, and deploy NSW forces to carry out special warfare missions worldwide. NSW forces operate independently or in conjunction with other SOF, joint forces, allied units, and coalition forces.

Naval Special Warfare Organization



Source: U.S. Navy 2010b

Figure 1-1
Naval Special Warfare Organization

NSWC supports training strategy, doctrine, tactics, and requirements of Commander, USSOCOM by ensuring that NSW special operators, combat support, combat service support, and other personnel involved with performing NSW missions are maintained in an optimum state of readiness, discipline, and morale. NSWC further ensures that the component units formed by these personnel are ready to meet the operational requirements of Combatant Commanders to whom they will be assigned upon deployment. The Combatant Commanders organize, assign functions to, and direct subordinate commands and forces necessary to carry out missions, including authoritative direction over all aspects of military operations, joint training, and logistics. Other personnel involved with performing NSW missions include Naval Construction Battalion (Seabees); explosive ordnance disposal (EOD) technicians; and personnel with expertise in military specialties such as intelligence, communications, cryptology, and logistics. NSWC provides direction to seven NSW Groups (NSWGs) and the NSW Center (NSWCEN).

NSWGs train, equip, command, and deploy components of NSW Squadrons to meet the exercise, contingency, and wartime requirements of the regional Combatant Commanders, theater special warfare commands, and numbered fleets located around the world. Additionally, they receive support from permanently deployed NSW units in Guam, Bahrain, and Germany.

NSWCEN, located at NAB Coronado, provides basic and advanced instruction and training in maritime Special Operations to U.S. military and government personnel and members of select foreign armed forces. NSWCEN is responsible for oversight of all courses that lead to individual SEAL and SWCC qualifications or certifications (U.S. Navy 2010a), and for producing operators.

The NSW organization structure is based on various echelons/levels of command. Echelon I is USSOCOM, Echelon II is NSWC, and Echelon III includes the NSWGs and the NSWCEN. Echelon IV commands are operational and logistical units and training commands including SEAL teams, Support Activity (SUPPACT), Mobile Communications Detachments (MCD), Training Detachment (TRADET), and Logistics Support Unit (LOGSU), as well as both Basic Training Command (BTC) and Advanced Training Command (ATC). All Echelon IV training commands as well as operational and logistical units share similar missions and resources (e.g., space, personnel, equipment, civilian support staff, and medical resources). The training commands as well as operational and logistical units (Echelon IV) report to the NSWGs (Echelon III) for command and control.

1.3 PURPOSE OF AND NEED FOR THE PROPOSED ACTION

The purpose of the Proposed Action is to (1) provide adequate facilities to support growth of NSWC on the west coast and (2) maintain the required levels of operational readiness of special warfare forces, as mandated by Title 10 U.S.C. § 167.

NSWC and its subordinate commands are located at five separate installations of NBC (Naval Air Station North Island (NASNI), NAB Coronado, Naval Outlying Landing Field Imperial Beach (NOLF IB), Naval Auxiliary Landing Field San Clemente Island (NALF SCI), and SSTC) and the current locations of NSW facilities on NBC installations do not support efficient NSW operations and training, as mandated. Many NSW facilities on NBC installations are functionally obsolete and do not meet current or would not meet future requirements for expansion and renovation. Many of these facilities were built during the World War II (WWII) era as temporary or pre-engineered facilities designed to meet a specific and immediate need, while others were built over 30 years ago for a very different force structure and are now functionally obsolete. On NAB Coronado alone, NSWC and subordinate commands are spread

throughout 60 facilities that are divided by State Route 75 (SR-75), negatively impacting the potential to achieve effective Command and Control and organizational efficiency and synergy. These facilities include temporary, pre-engineered structures, tension fabric structures, and modular structures built or procured only as a short-term solution to ongoing needs. In addition, several NSW units are temporarily utilizing space in Bachelor Enlisted Quarters (BEQs). A lack of adequate, climate-controlled gear storage facilities has resulted in increased gear degradation and/or maintenance requirements. A lack of dynamic shooting and close quarters combat training facilities is resulting in west coast SEALs traveling to private sector ranges in the midwest and southeast, increasing time away from home and family. Basic Facility Requirements (BFRs) for NSWC units at NBC are currently not being met (Table 1-1). Space deficiencies and fragmentation of the force result in inefficiencies in mission planning and execution and jeopardize operational readiness of NSWC.

Table 1-1
Basic Facility Requirements, NSWC Units at NBC

NSW Functional Areas	Current Assets	Requirements	Percent of Requirement Met
Administration	49,000 SF	90,000 SF	54%
Operations	310,000 SF	737,000 SF	42%
Logistics/Community Support	102,000 SF	292,000 SF	35%
Training (Indoor/Physical)	120,000 SF	340,000 SF	35%

SF = square feet

The Proposed Action is needed due to the lack of sufficient facilities and space to support NSWC's administrative, logistics, and classroom and tactical instruction functions at NAB Coronado and SSTC-South. As identified in the NSW Strategic MILCON Development Plan at NBC, use of existing facilities would prove challenging and costly (U.S. Navy 2010b). The Proposed Action would meet this need by optimizing both facilities and use of space, including synchronistic site improvements, within the existing NBC footprint. This would allow NSWC to support their mandated mission requirements in an efficient manner. The Proposed Action would also consolidate the following command elements into one geographic location for efficient administrative functions:

- Naval Special Warfare Group ONE (NSWG-1)
- SEAL Teams ONE, THREE, FIVE, SEVEN (SEAL Teams 1, 3, 5, 7)
- Logistics Support Unit (LOGSU) ONE
- Training Detachment (TRADET) ONE
- Naval Special Warfare Group TEN Detachment Coronado
- Naval Special Warfare Support Activity One
- Naval Special Warfare Mission Support Center
- Naval Special Warfare Group TEN Regional Cultural Engagement Unit
- Naval Special Warfare Group TEN Regional Support Troop ONE
- Naval Special Warfare Group TEN Training Troop ONE
- Naval Special Warfare Group TEN METOC Troop ONE
- Naval Special Warfare Group TEN Unmanned Aerial System (UAS) Troop ONE
- Naval Special Warfare Group ELEVEN (NSWG-11)
- SEAL Team SEVENTEEN (SEAL Team 17)
- Naval Special Warfare Center Advanced Training Command (ATC)

1.4 PROJECT LOCATION

NBC comprises the following eight Navy installations in San Diego and Los Angeles counties: NASNI; NAB Coronado; SSTC; NOLF IB; NALF SCI; Camp Michael Monsoor; Remote Training Site Warner Springs; and Camp Morena (Figure 1-2). Three NBC installations—NASNI, NAB Coronado, and SSTC—are considered as locations to support this Proposed Action. All three are located within 10 miles of each other (Figure 1-3).

1.4.1 NASNI

NASNI is bounded by San Diego Bay on the north and west, the Pacific Ocean on the south, and developed portions of the City of Coronado to the east and south. Primary on-base access is via Third Street, by way of the Coronado Bay Bridge (SR-75). NASNI has three nuclear-powered aircraft carrier berths, with two carriers currently homeported with more than 230 permanent and deployable aircraft. NASNI is the largest naval aviation industrial complex on the west coast and serves as the master helicopter base for NBC. NASNI is currently home to approximately 25,000 active duty military, reserve, and civilian personnel. The majority of facilities on NASNI are dedicated to both air and water/port operations and personnel support.

1.4.2 NAB Coronado

NAB Coronado is bounded by San Diego Bay on the north, east, and south and the Pacific Ocean on the west. NAB Coronado is a primarily developed area with access provided via SR-75, which bisects the installation into two separate locations (bayside and oceanside). NAB Coronado's mission is to provide on-base facilities and services for the support of U.S. and allied forces engaged in amphibious, expeditionary, and special warfare training and operations. NAB Coronado is home to nearly 6,000 active duty, selected reserve military, and civilian personnel and is the only naval amphibious installation on the west coast and one of two amphibious installations in the U.S. NAB Coronado serves as the base of operations for Commander, NSWC.

1.4.3 SSTC

SSTC is bordered by a developed portion of the City of Coronado to the north and the City of Imperial Beach to the south, with San Diego Bay to the east and the Pacific Ocean to the west. SSTC is divided into two noncontiguous areas: SSTC-North and SSTC-South. SSTC-North includes land areas on the northern half of the Silver Strand peninsula, while SSTC-South includes land areas on the southern end of the peninsula; both include adjacent nearshore waters of the Pacific Ocean. SSTC-North and SSTC-South are separated by Silver Strand State Beach, which is owned by the California Department of Parks and Recreation.

The mission of SSTC is to support the Navy and Marine Corps amphibious, expeditionary, and special warfare training by providing local land, sea, and airspace support services, material, and training facilities that will help Naval and Marine Corps forces achieve and maintain the highest level of operational readiness.

Source: ESRI; BLM 2011

12 6 0 12 Miles

Scale: 1:750,000; 1 inch = 12 miles

Figure 1-2
Regional Map and
NBC Installations

Source: ESRI; BLM 2011

1.5 0.75 0 1.5 Miles

Scale: 1:95,040; 1 inch = 1.5 miles

Figure 1-3
Naval Base Coronado
Vicinity Map

1.4.3.1 SSTC-North

SSTC-North is used for maritime and field training only and includes 10 oceanside beach and boat training lanes, ocean anchorage areas, bayside water training areas, and bayside beaches. The anchorages lie offshore of SSTC-North in the Pacific Ocean and overlap a portion of the boat training lanes. SSTC-North consists of 745 acres of land including approximately 2.6 nautical miles of coastline.

1.4.3.2 SSTC-South

SSTC-South is primarily used for maritime and field training but does provide limited infrastructure for classrooms, administration, and storage to support military training. It extends approximately 1.3 nautical miles along the Pacific Coast and encompasses approximately 548 acres of land owned by the Federal government from the mean high tide line on the bayside to the mean high tide line on the oceanside. SSTC-South also includes inland training areas and facilities inside a fenced area and oceanside beach and boat training lanes. Regional access to SSTC-South is provided by Interstate 5 (I-5); local access is provided by SR-75.

SSTC-South also includes areas of sensitive natural and cultural resources. Natural resources include an area of wetlands and vernal pools in the southeast portion of the site. There are several federally listed wildlife species on SSTC-South including San Diego fairy shrimp, California Least Tern, Western Snowy Plover, and Light-footed Ridgway's Rail (formerly known as Light-footed Clapper Rail) and federally listed plant species include the salt marsh bird's beak. Cultural resources include ten World War II-era buildings/structures are located on SSTC-South. Seven of the building/structures were recommended as eligible for the National Register of Historic Places (NRHP), including the Wullenweber Antenna Array and the six building/structures recommended as contributors to the discontiguous Fort Emory Coastal Battery Historic District. Fort Emory Coastal Battery Historic District includes Building 98, Building 99, Building 100, Building 911, Building 912 fuel tank pits, and Battery Imperial. The Wullenweber Antenna Array has been approved for demolition with the exception of a segment that would be preserved for historic purposes.

1.5 THE ENVIRONMENTAL REVIEW PROCESS

NEPA requires Federal agencies to examine the entirety of environmental effects of their proposed actions. An EIS is a detailed public document that provides an assessment of the potential effects that a major Federal action might have on the human environment. The Navy undertakes environmental planning for major Navy actions in accordance with applicable laws, regulations, and executive orders (EOs).

The first step in the NEPA process for an EIS is to publish a Notice of Intent (NOI) to prepare an EIS, which provides an overview of the proposed action and the scope of the EIS. The NOI is published in the Federal Register and local newspapers and provides an overview of the Proposed Action and the scope of the EIS. The NOI is also the first step in engaging the public. Scoping is an early and open process for developing the "scope" of issues to be addressed in an EIS and for identifying significant issues related to a proposed action. The scoping process for an EIS is initiated by publication of the NOI in the *Federal Register* and local newspapers. On 29 June 2012, the NOI to prepare this EIS was published in the *Federal Register* (Appendix A). The NOI invited agencies, organizations, and the general public to provide written comments about the Proposed Action and issues to be addressed in the EIS. The NOI

also announced two public meetings, which were held on 17 July 2012 at the Marina Vista Community Center in Imperial Beach, California, and 18 July 2012 at the Coronado Public Library in Coronado, California. The scoping period was originally planned for 30 days but was extended for another 15 days to conclude on 14 August 2012 due to a request by the City of Coronado. Advertisements announcing the scoping meetings were placed in four local and regional newspapers: San Diego Union-Tribune, Enlace (Spanish newspaper), Coronado Eagle and Journal, and the Imperial Beach Eagle and Times. Advertisements regarding the notice of extension of the scoping period were placed in the same newspapers.

A summary of the public involvement process is also contained in Appendix A. Public scoping comments received during the scoping process were used to help focus the analysis in this EIS.

Subsequent to the scoping process, a Draft EIS was prepared to assess potential impacts of the proposed action and alternatives on the environment. The U.S. Environmental Protection Agency (USEPA) published a Notice of Availability and Notices of Public Hearings in the *Federal Register* on 25 July 2014 (75 FR 43457). Notices were also placed in the *San Diego Union-Tribune*, *Enlace* (Spanish newspaper), *Coronado Eagle*, and in the *Imperial Beach Eagle and Times* announcing the availability of the EIS. The Navy held two public meetings, 13 August 2014 in Imperial Beach, California, and 14 August 2014, in Coronado, California. The 60-day comment period ran from 25 July 2014 to 22 September 2014. The Draft EIS was distributed to those individuals, agencies, and associations who asked to be notified during the public scoping period, as well as to members of Congress, the California governor, and officials in the coastal region surrounding the NBC study area. Additionally, the EIS was made available for general review at three information repositories in the local area, and on the project website (www.NBCCoastalCampusEIS.com). The information repositories included the Imperial Beach Library, Coronado Public Library, and City of San Diego Central Library. A total of 61 individuals and 17 agencies and organizations submitted comments on the Draft EIS. The comments addressed land use; air quality; hazardous materials and waste; water quality and hydrology; noise; biological resources; cultural resources; traffic and circulation; public health and safety; utilities and public services; coastal uses and resources; aesthetics; alternatives; and cumulative impacts. Each comment received during the public review period and a response to the comment are included in Chapter 10.

The Final EIS addresses all public comments received on the Draft EIS. Responses to public comments may include correction of data, clarifications of and modifications to analytical approaches, and inclusion of new or additional data or analyses.

Finally, the decision maker will issue a Record of Decision (ROD) no earlier than 30 days after a Final EIS is made available to the public.

1.6 REQUIRED REGULATORY COORDINATION

As part of the NEPA compliance process, coordination and consultation with appropriate government agencies will be initiated to obtain regulatory input and guidance related to the Proposed Action and alternatives. The purpose of this intergovernmental coordination is to ensure that all applicable laws, rules, regulations, and policies are complied with for the Proposed Action and alternatives. The Proposed Action may require specific regulatory decisions and approvals from Federal and state agencies, as summarized in Table 1-2.

Table 1-2
Regulatory Coordination Status

Statutes	Agency/Organization	Coordination Status
Endangered Species Act (1973, as amended)	U.S. Fish and Wildlife Service (USFWS)	Biological Assessment submittal to USFWS on 28 April 2014. USFWS issued an Informal Consultation Concurrence Letter (FWS-SDG-14B0200-14I0295) on 12 September 2014 (Appendix E)
National Historic Preservation Act of 1966, as amended (1994); Archaeological Resources Protection Act of 1979; National Register of Historic Places (1977); and Native American Graves Protection and Repatriation Act of 1990	California Historic Preservation Officer, Native American Tribes	Consultation and coordination with California State Historic Preservation Officer (SHPO) and the Tribes is expected to be completed in 2015
Clean Water Act (1972, as amended); EO 11990 (Protection of Wetlands 1977)	U.S. Army Corps of Engineers (USACE) and California Regional Water Quality Control Board	Coordination with USACE would occur in 2015
Coastal Zone Management Act (1972, as amended)	California Coastal Commission	California Coastal Commission concurred with the Navy's NBC Coastal Campus coastal consistency determination on 12 November 2014 (Appendix E)
Clean Air Act (1970 and Amendments of 1977 and 1990)	U.S. Environmental Protection Agency	General Conformity, Record of Non-Applicability (RONA) signed 11 February 2015

1.7 DECISION TO BE MADE

This EIS will be forwarded through the Navy chain-of-command for review and decision making. The Assistant Secretary of the Navy, Energy, Installations, and Environment has authority for the final decision. The decision may be to implement one of the project alternatives analyzed in this EIS. The final decision will be documented in a ROD.

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CHAPTER 2.0
PROPOSED ACTION AND ALTERNATIVES

2.1 INTRODUCTION

This description of alternatives is the basis for evaluating the potential environmental effects of developing an academic campus on NBC to support the current and future operational readiness of personnel with NSWC. The proposed campus would include a mix of instructional and administrative facilities that would provide for indoor classroom and tactical training instruction, and equipment use, maintenance, and storage.

2.2 PROPOSED ACTION OVERVIEW

The Proposed Action would include construction, operation, and maintenance of a developed campus encompassing multiple MILCONs. This would include 24 projects constructed over a 10-year period at a cost of approximately $700 million, providing nearly 1.5 million square feet of facilities (Table 2-1). These projects would support administrative uses, operational uses, logistics and community support uses, and training (indoor and physical training) uses.

Three *administrative facilities* projects would establish a command-and-control core for oversight of subordinate commands.

Nine projects would be for *operational unit* needs. They would support five west coast SEAL teams and other operational units that provide communications and intelligence, surveillance, and reconnaissance (ISR) support.

Five *logistics and community support* projects would provide a variety of support to operational units, including Armory/Weapons, Dive Operations, Medical, Food Service, Finance and Accounting, Operational Gear Storage, Combat Services Support, Small Craft Engineering, Tactical Ground Mobility Vehicle Maintenance, Air Operations, and Unmanned Aerial Vehicle Maintenance.

Table 2-1
NBC Coastal Campus Facility Requirements Summary

Facility Requirements[1]	MILCON Projects	Estimated Square Footage
Administration	P-200, P-912, P-951	90,000
Operational Units	P-797, P-889, P-890, P-892, P-893, P-904, P-915, P-919, P-964	737,000
Logistics and Community Support	P-776, P-870, P-920, P-921, P-965	292,000
Training (Indoor and Physical Training)	P-911, P-918, P-949, P-950, P-952, P-966, P-967	340,000
TOTAL	**24 MILCONs**	**1,459,000**

[1] These are general facility types, but similar uses (i.e., administrative and storage) could be included within multiple facility types. Not included in this summary are the proposed entry control point (P-947), infrastructure improvements (P-991), fire protection and emergency services improvements, food service, fuel dispensing, or “mini-mart” facilities that are also a part of the Proposed Action.

Seven projects would sustain *training* and training support for operational units. These projects would support SEAL unit-level training (ULT) curriculum development; close quarters combat (CQC) training; human performance and resiliency training; Survival, Evasion, Resistance, and Escape (SERE) training; foreign language training; advanced diving training; advanced communication training; and close quarters defense (CQD) training.

The Proposed Action would also include the design and build of related site improvements that may include new infrastructure (e.g., upgraded utilities, fencing, roads, and parking). Site preparation for construction, such as demolition of existing infrastructure (such as buildings and roads) and site grading and leveling, would also be included, as would a number of off-site traffic and access and sewer infrastructure improvements.

Projects included in the alternatives would be constructed in compliance with applicable sustainability and energy-efficiency guidelines and regulations (e.g., EO 13423, Strengthening Federal Environmental, Energy, Energy, and Transportation Management; EO 13514, Federal Leadership in Environmental, Energy, and Economic Performance; and the Energy Independence and Security Act of 2007 [EISA]). Table 2-2 summarizes these two EOs.

Table 2-2
Summary of EO 13423 and EO 13514

Executive Order (EO)	Purpose	Requirement
EO 13423	Issued to ensure all Federal agencies conduct environmental, transportation, and energy-related activities under the law in support of their respective missions in an environmentally, economically, and fiscally sound, integrated, continuously improving, efficient, and sustainable manner.	Federal agencies improve energy efficiency, reduce greenhouse gas (GHG) emissions, and implement sustainable building practices (Department of Energy 2007a). Comply with the Guiding Principles for New Construction and Major Renovation.
EO 13514	Introduces new GHG emissions management requirements; expands water-reduction requirements; and addresses waste diversion, local planning, sustainable buildings, environmental management, and electronics stewardship (Department of Energy 2009) for Federal agencies. The Energy Independence and Security Act of 2007 (EISA) is an Act of Congress concerning the energy policy of the U.S. One of the stated purposes of the EISA is to increase the efficiency of buildings and to improve the energy performance of the Federal government (Department of Energy 2007b).	Comply with the Guiding Principles for New Construction and Major Renovation. Requires at least 15 percent of each agency's facilities and building leases (more than 5,000 gross square feet) to meet the Guiding Principles by 2015 for existing buildings.

The Proposed Action's buildings and facilities would be designed following established principles of sustainability, thereby meeting the standards set forth in EO 13423, EO 13514, and the EISA, as well as applicable Navy guidelines and regulations.

The approach to addressing the existing National Register of Historic Places (NRHP)-eligible historic bunker (Building 99) complex at SSTC-South would vary between the action alternatives, with Building 99 being demolished or retained and preserved in place or adaptively reused. This NEPA process and the National Historic Preservation Act (NHPA) Section 106 process will ultimately determine the most appropriate approach.

2.3 DEVELOPMENT OF ALTERNATIVES

Guidance for the development of alternatives is provided in CEQ regulations (40 C.F.R. § 1502.14). Analysis of the environmental impacts of the alternatives is the focal point of an EIS and is intended to provide the decision maker and the public with a clear understanding of relevant issues and the basis for choice among identified courses of action. NEPA requires that an EIS be prepared to evaluate the environmental consequences of a range of reasonable alternatives. The alternatives in this EIS were developed using the following Federal and military land use policies and procedures:

- Assessment of the current and projected needs for future military land use, nonmilitary land use, and resource management at NBC;
- Identification of public concerns through a public scoping process and consideration of comments received during this process regarding the Navy's new development, land utilization, and resource management; and
- Consideration of limited nonmilitary uses of Navy real estate and training areas at NBC components (including U.S. Border Patrol and YMCA Camp Surf). These uses need to be compatible with military uses and the Navy's stewardship goals for natural and cultural resources, and not create a compliance, security, or public health and safety risk or result in a fiscal burden.

Reasonable Alternative Selection Criteria

Consistent with the purpose and need identified in Chapter 1, alternatives selection criteria were developed to help identify viable and reasonable alternatives to carry forward for analysis and to eliminate unreasonable alternatives from further consideration in the EIS. The reasonable alternative selection criteria for this EIS include the following:

1. Location of the Proposed Action in proximity to existing Federal facilities and military lands used by NSWC within the existing footprint of NBC. NSWC is located at NBC, the largest naval complex in the U.S., and will not be relocating. NBC provides a full spectrum of Navy SEAL training inclusive of sea, air, and land components, which make NBC the critical present and future center for NSWC. NSWC directs the Navy's SOF from NAB Coronado, while SSTC is the premier west coast special warfare training area for the Navy; both are a part of NBC. A major concern for NSWC is the time required by the SEALs for deployment or training away from home, referred to as personnel tempo (PERSTEMPO) and individual tempo (ITEMPO). PERSTEMPO refers to the total time an individual is deployed versus non-deployed, and ITEMPO refers to the total time an individual is at home. Efficient location of commands, equipment, facilities, and infrastructure that support NSW within the NBC footprint would minimize the amount of time SEALs spend away from home for their training and would also comply with Navy PERSTEMPO requirements.

2. Avoid adversely affecting current Navy missions. Adding new facilities for NSWC to other military installations would require other Commands to reorganize and relocate, and would thereby impede their missions.

3. Co-location of NSW facilities to the extent feasible to optimize efficiency and primacy of use. Co-locating the proposed NSWC facilities to a single installation would optimize efficiency and provide NSWC with first priority or exclusive use of the required facilities. Co-location would centralize operations and minimize organizational redundancies, integrate siting to improve mobility of deployments and training evolutions, maximize resource availability, resolve critical facility shortfalls, and replace inadequate and undersized facilities.

The 2006 QDR stated that the Navy will support USSOCOM increase in SEAL team manning. It is the responsibility of NBC to study and determine the optimal use of land, facilities, and infrastructure to accommodate and support the Congressionally mandated growth of SOF, specifically developing the Coastal Campus to improve NSWC's inadequate facilities and fragmented space.

The specific geographic placement of the Coastal Campus on NBC is pivotal to providing shore installation support to NSWC. Identification of NSWC's role and function, and existing geographic relationship to NBC, to include land, facilities, infrastructure, and access to local ranges, has generated the set of selection criteria that funnels possible approaches into a reasoned evaluation whose ultimate purpose is to determine whether the examined alternatives fulfill the objective of this Proposed Action; that is to say, fulfillment of the purpose and need. Co-location of NSWC components provides synergy (effective interaction), optimizes functional and geographic relationships, and maximizes funds available for modernization.

NSWC, one of the primary tenants on NBC and intended user of the NBC Coastal Campus, has unique requirements based upon its mission to man, train, and equip SOF personnel. Although training (other than equipment use and equipment maintenance training, classroom and tactical skills instruction, and physical conditioning) is not part of this action, having proximity to the Southern California (SOCAL) operational ranges is essential in order to maintain readiness of assigned forces.

Optimizing logistical, training, and administrative support functions and facilities within the NBC Coastal Campus allows development of the skills necessary for strategy and tactics, and also provides for acquiring and maintaining the people who are our SOF. NSWC assets are not ships, submarines, and aircraft; rather, the bulk of NSWC expenditures are directed toward personnel, equipment, and training. Given current readiness requirements, recruiting and training are primary command focus areas; NSWC's military readiness would be realized by development of the NBC Coastal Campus.

Since 11 September 2001, USSOCOM manpower has nearly doubled, the budget has nearly tripled, and overseas deployments have quadrupled. Shore forces support provided by NBC must include predictability, that is, the ability of SOF personnel to use local facilities to receive necessary knowledge and training "in their backyard." "Traveling to train" means more days away from home when in a non-deployed status. The NBC Coastal Campus would be a modernization effort that not only increases operational skills and proficiency, but also provides "days at home," thereby fulfilling the NBC mission to support Fleet, Fighter and Family.

2.4 ALTERNATIVES CONSIDERED BUT NOT CARRIED FORWARD FOR DETAILED ANALYSIS

Fifteen alternatives, including the No Action Alternative, were initially considered while preparing this EIS. Further analysis resulted in a determination that 13 action alternatives would not meet the reasonable alternative selection criteria and, thus, would not meet the Navy's operational readiness needs in Southern California. A brief description of these alternatives and reasons for their elimination following guidance from CEQ regulation 40 C.F.R. § 1502.14(a) are provided in the following sections and summarized in Table 2-3.

2.4.1 Naval Air Station North Island

NASNI is located on Coronado Island approximately 10 miles northwest of SSTC-South (Figure 2-1). Due to its location within the NBC footprint, this alternative would meet criterion 1. NASNI is the Designated Helicopter Master Base for west coast helicopters. Mission-essential transient aircraft, including various helicopter, propeller, and jet aircraft, operate in and out of NASNI. NASNI is nearly fully developed in areas not otherwise constrained by restrictions on runway clearances, and construction of the 1.5-million-square-foot NBC Coastal Campus would require substantial relocation of uses, thereby impeding current Navy activities and missions. Due to a lack of available land at NASNI, co-location of NSWC facilities would not be feasible and optimizing efficiency and primacy of use would not occur. Therefore, this alternative would not meet criteria 2 and 3 and was eliminated from further analysis.

2.4.2 Naval Amphibious Base Coronado

NAB Coronado is located between NASNI and SSTC-South (Figure 2-1). Due to its location within the NBC footprint, NAB Coronado would meet criterion 1. NAB Coronado is nearly fully developed, and construction of the 1.5-million-square-foot NBC Coastal Campus would require substantial relocation of uses, constraining the spaces of remaining uses and users, and thereby impeding current Navy activities and missions. Due to a lack of available land at NAB Coronado, co-location of NSWC facilities would not be feasible and optimizing efficiency and primacy of use would not occur. Therefore, this alternative would not meet criteria 2 and 3 and was eliminated from further analysis.

2.4.3 NOLF Imperial Beach

NOLF IB is located 1 mile southeast of SSTC-South, 10 miles south of downtown San Diego, and adjacent to the City of Imperial Beach (Figure 2-1). Due to its location within the NBC footprint, NOLF IB would meet criterion 1. NOLF IB operates as an extension of NASNI, providing a practice airfield for helicopter operations, with miscellaneous support facilities serving the military population in the Imperial Beach area (U.S. Navy 2011d). Construction of the 1.5-million-square-foot NBC Coastal Campus exclusively at NOLF IB would expand development and/or require substantial relocation of uses, constraining the spaces of remaining uses and users, and thereby impeding current Navy activities and missions. Due to a lack of available land at NOLF IB, co-location of NSWC facilities would not be feasible and optimizing efficiency and primacy of use would not occur. If air operations were relocated from NOLF IB to accommodate new development, the air training would need to be located elsewhere. Due to the air traffic volume at NOLF IB, NASNI would not have the capacity to absorb these additional air operations (U.S. Navy 2009b). Therefore, this alternative would not meet criteria 2 and 3 and was eliminated from further analysis.

Table 2-3
Alternatives Evaluated against the Selection Criteria

Selection Criteria	Alternatives Considered															
	Alt 1	Alt 2	Alt 3	NASNI	NAB Coronado	NOLF IB	Naval Base Point Loma	Naval Base San Diego	Marine Corps Base Camp Pendleton	NALF SCI	Camp Michael Monsoor	Remote Training Site Warner Springs	Naval Air Facility El Centro	Naval Air Station Fallon	Naval Air Weapons Station China Lake	Marine Corps Air Station Miramar
1. Location of the Proposed Action in proximity to existing Federal facilities and military lands used by NSWC within the existing footprint of NBC	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	Yes	Yes	Yes	No	No	No	No
2. Avoid adversely affecting current Navy missions.	Yes	Yes	Yes	No	No	No	No	No	No	No	No	No	No	No	No	No
3. Colocation of NSW facilities to the extent feasible to optimize efficiency and primacy of use	Yes	Yes	Yes	No	No	No	No	No	No	No	No	No	No	No	No	No

Source: ESRI; BLM 2011

12 6 0 12 Miles

Scale: 1:750,000; 1 inch = 12 miles

Figure 2-1
Project Alternative Locations

2.4.4 Naval Base Point Loma

Naval Base Point Loma, located approximately 9 miles northwest of SSTC-South (Figure 2-1), is one of the Navy's premier west coast submarine bases. Due to its location outside the NBC footprint, this alternative would not meet criterion 1. Naval Base Point Loma is nearly fully developed in areas not otherwise constrained by restrictions for submarine security. Construction of the 1.5-million-square-foot NBC Coastal Campus would require substantial relocation of uses, thereby impeding current Navy activities and missions. Due to a lack of available land at Naval Base Point Loma, co-location of NSWC facilities would not be feasible and optimizing efficiency and primacy of use would not occur. Therefore, this alternative would not meet criteria 2 and 3 and was eliminated from further analysis.

2.4.5 Naval Base San Diego

Naval Base San Diego is located approximately 5 miles northeast of, and across San Diego Bay from, SSTC-South (Figure 2-1). Due to its location outside the NBC footprint, this alternative would not meet criterion 1. Naval Base San Diego is the principal homeport of the Pacific Fleet, consisting of 49 Navy ships, two Coast Guard cutters, five Military Sealift Command logistical support platforms, and several research and auxiliary vessels. Similar to Naval Base Point Loma, Naval Base San Diego is nearly fully developed in areas not otherwise constrained by restrictions on ship homeporting, and construction of the 1.5-million-square-foot NBC Coastal Campus would require substantial relocation of uses, thereby impeding current Navy activities and missions. Due to a lack of available land at Naval Base San Diego, co-location of NSWC facilities would not be feasible and optimizing efficiency and primacy of use would not occur. Therefore, this alternative would not meet criteria 2 and 3 and was eliminated from further analysis.

2.4.6 Marine Corps Base Camp Pendleton

Marine Corps Base Camp Pendleton, located 45 miles north of San Diego, is the Marines' premier amphibious training base and their only west coast amphibious training base (Figure 2-1). Due to its location outside the NBC footprint, this alternative would not meet criterion 1. Marine Corps Base Camp Pendleton has numerous environmentally sensitive (biological and cultural) resources that currently limit and constrain Marine Corps training. Construction of the 1.5-million-square-foot NBC Coastal Campus would further constrain training and would impede current Marine Corps activities and mission. This alternative would not meet criterion 2. NSWC would share coastal training areas with Marine Corps Base Camp Pendleton users and would not have primacy of use, which would not optimize efficiency of use. This alternative would not meet criterion 3. Therefore, this alternative was eliminated from further analysis.

2.4.7 Naval Auxiliary Landing Field San Clemente Island

NALF SCI is located 67 miles west of San Diego and within the NBC footprint (Figure 2-1). This alternative would meet criterion 1. The main mission of NALF SCI is to support research and development of many of the Navy's weapon systems and it is also one of the few remaining live fire ranges available. A number of constraints, including threatened and endangered species and unexploded ordnance (UXO) concerns, currently limit and constrain Navy training. Construction of the 1.5-million-square-foot NBC Coastal Campus would further constrain training and would impede current Navy activities and mission. This alternative would not meet criterion 2. In addition, the distance from assets, facilities, and land used

by NSWC would be problematic for integration of new NSWC facilities, which would not optimize efficiency and primacy of use. This alternative would not meet criterion 3. Therefore, this alternative was eliminated from further analysis.

2.4.8 Camp Michael Monsoor

Camp Michael Monsoor (formerly known as the La Posta Mountain Warfare Training Facility) is located 60 miles east of San Diego within the NBC footprint (Figure 2-1). This alternative would meet criterion 1. Camp Michael Monsoor is one of the few places that allow SOF to conduct mountain warfare training in a real life environment with limited encroachment problems. Construction of the 1.5-million-square-foot NBC Coastal Campus would reduce the amount of training lands and would impede current Navy activities and mission. This alternative would not meet criterion 2. In addition, the distance from assets, facilities, and land used by NSWC would be problematic for integration of new NSWC facilities, which would not optimize efficiency and primacy of use. This alternative would not meet criterion 3. Therefore, this alternative was eliminated from further analysis.

2.4.9 Remote Training Site Warner Springs

Remote Training Site Warner Springs (RTSWS) is located approximately 45 miles northeast of San Diego within the NBC footprint (Figure 2-1). This alternative would meet criterion 1. The primary purpose for RTSWS is to conduct SERE training, with a secondary purpose of supporting training activities. Any new development on this land would need to be reviewed and authorized by other landholders, including BLM, U.S. Forest Service, and Vista Irrigation District, as the Navy does not have exclusive ownership or use rights to any land at RTSWS. Construction of the 1.5-million-square-foot NBC Coastal Campus would reduce the amount of current SERE training lands and would impede current Navy activities and mission, thereby not meeting criterion 2. In addition, the distance from assets used by NSWC would be problematic for integration of new NSWC facilities, which would not optimize efficiency and primacy of use. This alternative would not meet criterion 3. Therefore, this alternative was eliminated from further analysis.

2.4.10 Naval Air Facility El Centro

Naval Air Facility El Centro, located 110 miles east of San Diego (Figure 2-1), is a key naval aviation training facility. Due to its location outside the NBC footprint, this alternative would not meet criterion 1. Naval Air Facility El Centro is developed and also has areas constrained by restrictions on runway clearances. Construction of the 1.5-million-square-foot NBC Coastal Campus would expand development and/or require substantial relocation of uses, constraining the spaces of remaining uses and users, and thereby impede current Navy activities and missions. This alternative would not meet criterion 2. In addition, the distance from assets used by NSWC would be problematic for integration of new NSWC facilities, which would not optimize efficiency and primacy of use. This alternative would not meet criterion 3. Therefore, this alternative was eliminated from further analysis.

2.4.11 Naval Air Station Fallon

Naval Air Station Fallon is located in the Lahontan Valley of Churchill County in west-central Nevada, about 70 miles east of Reno and 540 miles north of San Diego (Figure 2-1). Due to its location outside the NBC footprint, this alternative would not meet criterion 1. Naval Air Station Fallon is the Navy's premier

tactical air warfare training center. Construction of the 1.5-million-square-foot NBC Coastal Campus would expand development and/or require substantial relocation of uses, constraining the spaces of remaining uses and users, and thereby impede current Navy activities and missions. This alternative would not meet criterion 2. In addition, the distance from assets used by NSWC would be problematic for integration of new NSWC facilities, which would not optimize efficiency and primacy of use. This alternative would not meet criterion 3. Therefore, this alternative was eliminated from further analysis.

2.4.12 Naval Air Weapons Station China Lake

Naval Air Weapons Station China Lake is located in the western Mojave Desert of Southern California, approximately 225 miles north of San Diego (Figure 2-1). Due to its location outside the NBC footprint, this alternative would not meet criterion 1. Naval Air Weapons Station China Lake supports the Navy's research, development, acquisition, testing, and evaluation of cutting-edge weapons systems for the warfighter. Construction of the 1.5-million-square-foot NBC Coastal Campus would expand development and/or require substantial relocation of uses, constraining the spaces of remaining uses and users, and thereby impede current Navy activities and missions. This alternative would not meet criterion 2. In addition, the distance from assets used by NSWC would be problematic for integration of new NSWC facilities, which would not optimize efficiency and primacy of use. This alternative would not meet criterion 3. Therefore, this alternative was eliminated from further analysis.

2.4.13 Marine Corps Air Station Miramar

Marine Corps Air Station Miramar, located approximately 18 miles northeast of SSTC-South, is home to the 3rd Marine Aircraft Wing, the aviation element of the 1st Marine Expeditionary Force (Figure 2-1). Due to its location outside the NBC footprint, this alternative would not meet criterion 1. Marine Corps Air Station Miramar has numerous environmentally sensitive (biological and cultural) resources that currently limit and constrain Marine Corps training. Construction of the 1.5-million-square-foot NBC Coastal Campus would expand development and/or require substantial relocation of uses further constraining the spaces of remaining uses and users, and thereby impede current Marine Corps activities and mission. This alternative would not meet criterion 2. In addition, the distance from assets used by NSWC would be problematic for integration of new NSWC facilities, which would not optimize efficiency and primacy of use. This alternative would not meet criterion 3. Therefore, this alternative was eliminated from further analysis.

2.5 ALTERNATIVES CARRIED FORWARD FOR ANALYSIS

Four alternatives were carried forward for evaluation in this EIS. These alternatives include three action alternatives (Sections 2.5.2, 2.5.3, and 2.5.4) that accommodate development of an academic campus on NBC to support current and future NSWC readiness, as described in the reasonable alternative selection criteria listed in Section 2.3, and the No Action Alternative (Section 2.5.1). Descriptions of these alternatives are provided in the following sections.

2.5.1 No Action Alternative

The No Action Alternative would maintain the existing land uses and training facilities currently at NBC. None of the Proposed Action construction or improvements would occur. Current programmed levels of use (type, tempo, location), including requirements for planned force growth, would continue. Use of

existing facilities would prove challenging and costly, as documented by the NSW Strategic MILCON Development Plan at NBC, which identified the need for additional operational resources (U.S. Navy 2010b). As a result, NSWC would continue to have limited space for current and future training and operations support, as well as an inability to undertake Congressionally mandated growth. Geographically dispersed assets and continued use of temporary facilities would continue to cause inefficiencies in mission planning and execution as well as logistical support. Commands would not be consolidated, and inefficiencies in command and control functions would continue. By limiting facilities and land use support to accommodate NSWC growth and expansion, the No Action Alternative would not achieve the mission of NSWC or the purpose and need of the Proposed Action. The No Action Alternative is used in this EIS as an analytical baseline that establishes the current facilities and land use framework. It provides this analytical baseline upon which other alternatives may be compared.

2.5.2 Alternative 1 – SSTC-South Bunker Demolition Alternative (Preferred Alternative)

Alternative 1 (SSTC-South Bunker Demolition Alternative), the preferred alternative, would consist of (1) consolidation of the necessary NSWC facilities to one location on SSTC-South; (2) design and construction of logistical support buildings, equipment use (and equipment maintenance) training facilities (including an approximately 50-foot-long by 80-foot-wide by 120-foot-tall parachute drying tower or paraloft), classroom and tactical skills instruction buildings, storage, and administrative facilities; infrastructure; utilities; fencing; roads; and parking; and (3) construction of a new entry control point providing immediate access to SSTC-South from SR-75. Also included would be a food service facility, fuel dispensing facility, a “mini-mart” type of store, and improved fire protection and emergency services. With the exception of the paraloft at 120 feet tall and potentially several rooftop communication antennas, all other buildings would be limited in height to 45 feet or the height of the largest bunker, Building 99. Under this alternative Building 99 would be demolished along with up to 20 other existing structures. Site preparation would potentially also include demolition of infrastructure and site grading and leveling. An existing Navy facility along with its associated cabling would need to be relocated north of its current location within the Alternative 1 footprint. Sustainable design would be used for all facilities as is practical. Off-site traffic, access, and utility improvements would also be required. Leadership in Energy and Environmental Design (LEED) Silver standards is the minimum goal for the Coastal Campus. Figure 2-2 shows the existing development considerations on SSTC-South, while Figures 2-3, 2-4, 2-5, and 2-6 show the Alternative 1 footprint, land uses, proposed improvement, off-site improvements, and ingress and egress improvements.

SSTC-South has a number of existing considerations for current and future development (Figure 2-2). These include natural and cultural resources, an unprepared helicopter landing zone and flight path, a 30-foot-wide potable water line easement, the segment of the historic Wullenweber Antenna Array that is being preserved, and two facilities with surrounding site uses that could not be entirely relocated off-site. The natural resources include an extensive network of vernal pools and wetlands in the southeastern portion of the site and Western Snowy Plover nesting areas on the beach area. For additional protection of these resources, a 50-foot buffer was added to the vernal pool basins and a 300-foot buffer was added to the Western Snowy Plover nesting areas. These buffers served as setbacks from the resources for proposed development. No changes to current beach access would occur as part of the Proposed Action. All NSW operations are addressed in the Silver Strand Training Complex EIS (U.S. Navy 2011b). The cultural resources include prehistoric and historic structures along the eastern boundary and throughout the northern central portion of SSTC-South. With the exception of the demolition of Building 99 (historic

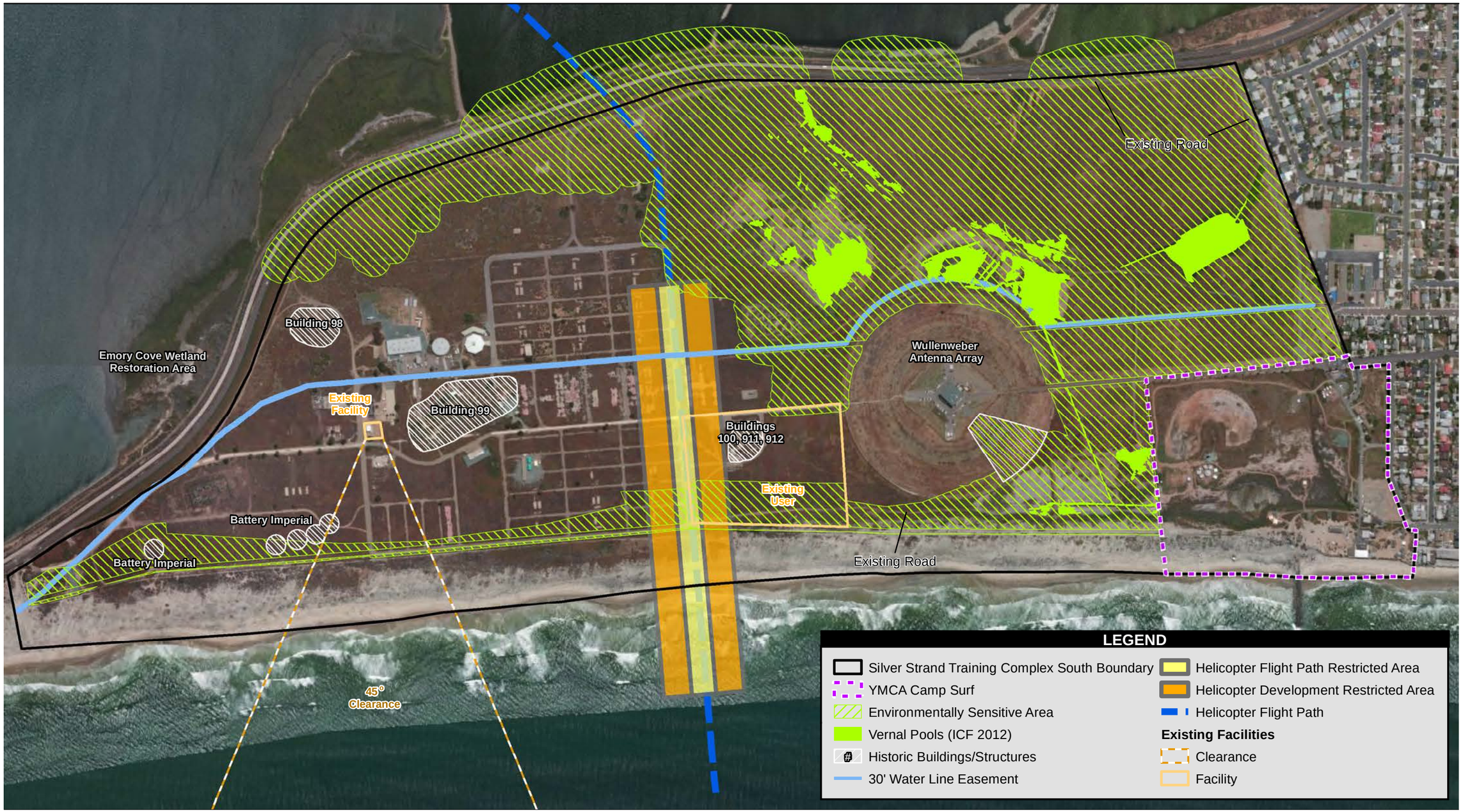
bunker), other cultural resources were avoided, including buildings 98, 100, 911, 912, and Battery Imperial, under Alternative 1.

The unprepared helicopter landing zone and its associated flight path cross the site east to west through the center of SSTC-South. The helicopter landing zone and flight path could not be relocated without shifting aircraft noise levels closer to the residents of Imperial Beach or the residents of the Coronado Cays, which would also redirect inbound helicopter traffic over the estuary within the southern portion of San Diego Bay. California American Water Company has a 30-foot-wide water easement (and 16-inch potable water line) that extends through the middle of the site north to south. This easement could be relocated and the other user facility in the northern portion of the site could be partially relocated; this is discussed further under Utility Improvements below. The southwest segment of the Wullenweber Antenna Array along with Building 1 would be preserved for historic purposes. Existing facilities with ongoing activities would continue in place along the western and northern portions of the site, which would constrain current development in those areas. The existing user facility in the northern portion of the site could be partially relocated, minimizing the potential effects on the proposed development. The existing user facility and associated site use along the western portion of the site could not be relocated and would remain in place, along with the preserved components of the Wullenweber Antenna Array. Each of these was considered in the conceptual layout of the proposed NBC Coastal Campus.

NSWC proposed a Strategic MILCON Development Plan for Commander, Naval Special Warfare Command (CNSWC). The MILCONs included in the plan would provide additional operational resources for NSWC. Alternative 1 would be composed of general facility requirements, as described in Table 2-1. The Alternative 1 footprint would include all on-site construction limit boundaries, including the main Coastal Campus development area, plus on-site utilities easements and off-site utilities and traffic upgrade areas. The acreage of the Coastal Campus on-site development area plus the on-site utilities easements equals the on-site acreage of the Proposed Action footprint (Table 2-4 and Figure 2-4).

Table 2-4
Proposed Action Alternatives Acreages

Alternative	Installation	On-site Coastal Campus Development Area	Building 99 Retention Area	On-site Utilities Easement Area	Project Footprint (Total)
Alternative 1 – SSTC-South Bunker Demolition Alternative (Preferred Alternative)	SSTC-South	166.85	0	4.33	171.18
Alternative 2 – SSTC-South Bunker Retention Alternative	SSTC-South	162.25	4.6	4.33	171.18
Alternative 3 – Multi-Installation Alternative	SSTC-South	162.25	4.6	4.33	171.18
	NAB Coronado	6.3	0	0	6.3
	NASNI	2.7	0	0	2.7



Source: ESRI 2014

600 300 0 600 Feet

Scale: 1:7,200; 1 inch = 600 feet

*The buffers along the western boundary are a general guideline for development restrictions.
**Vernal pools watershed include a 50-foot buffer

Figure 2-2
SSTC-South Existing Development Considerations Map

Path: P:\2011\60236207\06GIS\6.3_Layout\EIS\November_2014\fig2_2_Combinedresources_Constraints_Map_.mxd, 2/20/2015, SorensenJ

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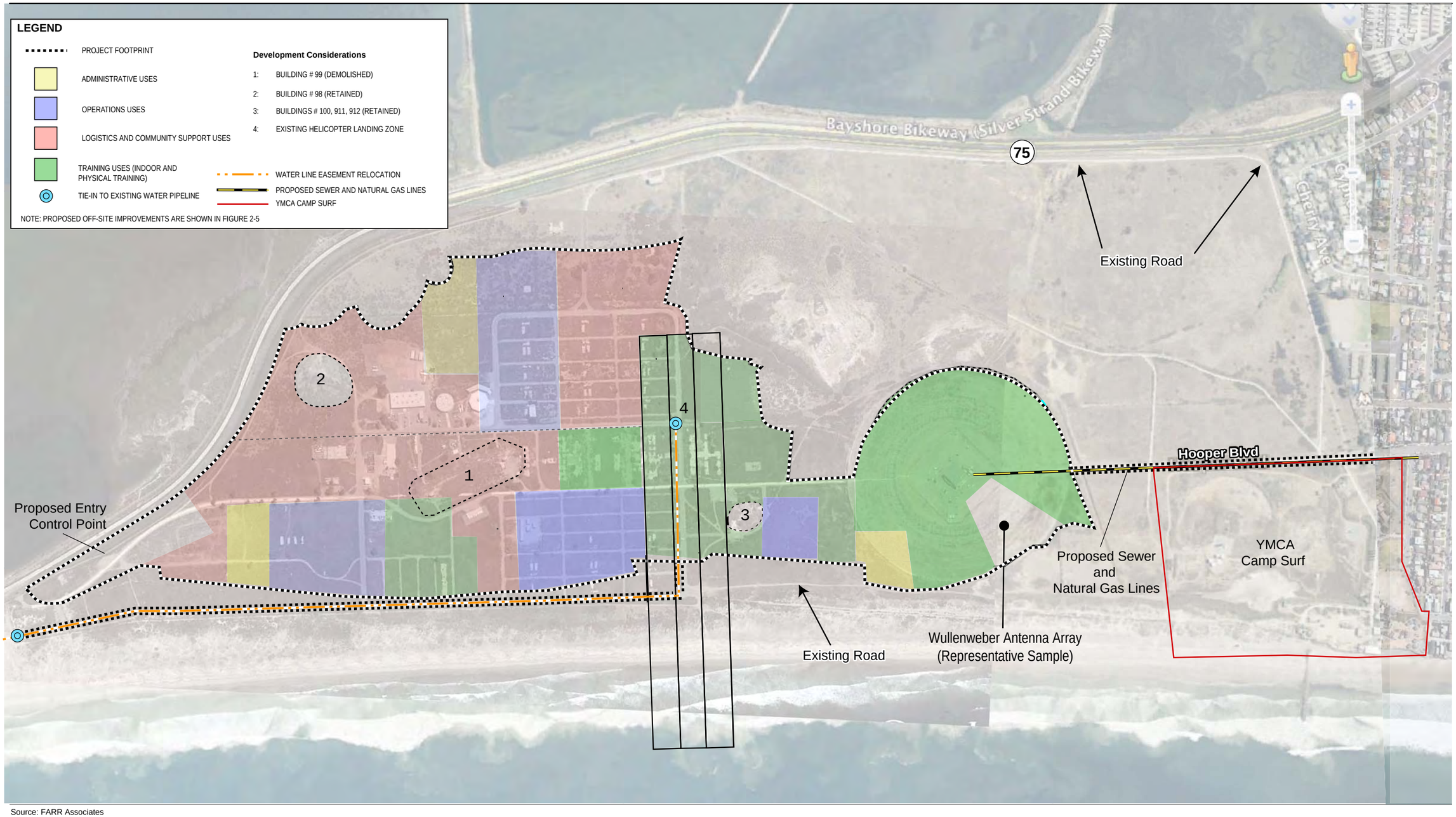

Source: FARR Associates

800 400 0 800 Feet

Figure 2-3
Alternative 1 Proposed Conceptual Land Uses and On-site Improvements

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Source: TierraData 2011; U.S. Navy 2011, 2012; ESRI; AECOM 2012

700 350 0 700 Feet

Scale: 1:8,400; 1 inch = 700 feet

Figure 2-4
Alternatives 1, 2, and 3
SSTC-South On-site Project Footprint

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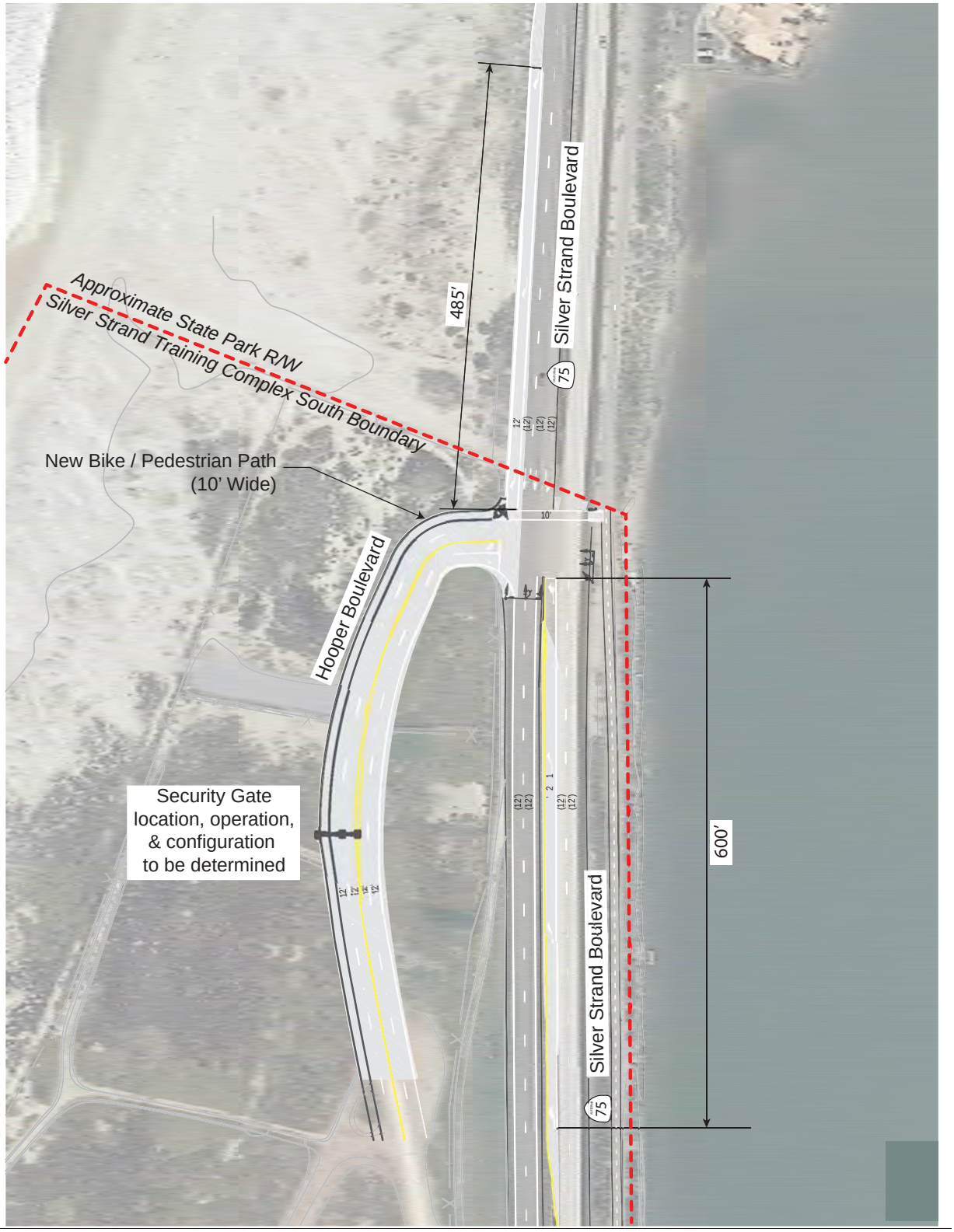
Source: ESRI 2013; U.S. Navy 2012

2,000 1,000 0 2,000 Feet

Scale: 1:24,000; 1 inch = 2,000 feet

Figure 2-5
Off-site Road and Utility Improvements for Alternatives 1, 2, and 3

Path: P:\2011\60236207\06GIS\6.3_Layout\EIS\November_2014\fig2_5_Offsite_UtilityImprovements.mxd, 11/24/2014, SorensenJ



Not to Scale

Figure 2-6
Entry Control Point and SR-75 Improvements

The off-site utilities and traffic improvements would occur within existing paved roadways or adjacent developed areas, avoiding potential impacts to natural resources. The following discussion will address the proposed land uses and improvements and the interrelationship of the proposed facility requirements, the demolition of Building 99, traffic and access improvements, and utility improvements.

Relationship Between Facility Requirements

The guiding planning element of Alternative 1 is the clustering of interrelated uses, functions, and facilities on a single, contiguous campus to facilitate multiple types of efficiencies as shown in Figure 2-3 and described below.

Administration

Administrative uses include command and control for oversight of subordinate commands. NSWG-1 Operations Support Facility (P-200), NSWG-11 Operations Support Facility (P-912), and the ATC Operations Support Facility (P-951) would be co-located with the previously described Echelon IV commands to support effective command and control.

Operational Units

Operational units including SEAL Teams 1 (P-889), 3 (P-890), 5 (P-964), and 7 (P-892) would be the core of the proposed NBC Coastal Campus. These are active SEAL teams participating in a common, ongoing 24-month inter-deployment training cycle in preparation for their next deployment, itself a 6-month event. Operational units have day-to-day interaction with their own support elements for mission planning, instructions, and coordination, requiring operational adjacencies and synergies. SEAL Team 17 (P-904), a reserve team on a differing training and deployment cycle, but with similar types of support needs, would be co-located with the active SEAL teams.

SEAL team support elements include SUPPACTs and MCD. Both have regular and frequent interaction and deploy with SEAL teams. SUPPACT (P-797, P-893, and P-919), is an Echelon IV operational unit providing intelligence, surveillance, and reconnaissance support to SEAL teams. MCD (P-915) is an Echelon IV operational unit providing communications support to the SEAL teams.

Logistics/Community Support

LOGSU encompasses a number of functions, including Unmanned Aerial Vehicle (UAV) maintenance and storage (P-870); supply (warehousing), small craft engineering (repair and maintenance of small craft), and Combat Services Support (P-920); tactical ground mobility (maintenance and repair of military vehicles) and air operations (cleaning, storing/hanging, and maintaining parachutes) (P-921); and dive operations (repair and maintenance of dive equipment) and armory (weapons cleaning, storing, and maintenance) (P-776).

The Resiliency Center (P-965), a resource available to SOF personnel and their families to proactively address many of the mental, physical, spiritual, and financial challenges they face, would also be located on the NBC Coastal Campus under this alternative. The center is intended to help build stronger warfighters and families and to make them more adaptable and resilient. This would maximize convenience for those active duty SEALs and SWCCs spending the majority of their time at the Coastal

Campus (but would potentially make it less convenient for other portions of the NSWC constituency based at NBC but not at the Coastal Campus). An auditorium would support pre- and post-deployment conferences and briefs, workshops supporting corrective behavior and coping skills, financial wellness, health, nutrition and fitness, alternative pain management, sleep, hygiene, and education. Open space in the facility could also be used for ceremonies and memorial services. Additional administrative and support space would accommodate operational psychologists, social workers, case management specialists, and chaplains.

SOF personnel and their families would have a single, central location on the Coastal Campus that supports building resiliency of mind, body, and spirit. It is, therefore, logistically essential that these uses along with SEALs, SUPPACT, and MCD be close to one another.

Training (Indoor and Physical Training)

With the operational units and the logistics/community support uses clustered together, physical training components are needed in proximity for efficiency of day-to-day training support. The Tactical Athlete Center (TAC) (P-952) is a wellness facility for physical fitness, nutrition, alternative medicine, rehabilitation and physical therapy, and spiritual healing. The purpose of the TAC is to reduce injury, aid in recovery, and educate the SEALs on proper biomechanics to become stronger and more resilient. This facility would be used daily by the SEALs and operational units and should be within proximity of other support facilities. The TRADET facility (P-966) includes classrooms providing a variety of courses of instruction in Land Warfare, Assaults, Mobility, and Waterborne (Surface and Subsurface) Training, and supports combatives training prior to deployment. The individual SEAL also spends a good deal of time at this facility when preparing for deployment.

The other multiple training and training support facilities with synergies gained from co-location with the elements described above would include ATC Applied Instruction (P-949); TRADET Training Tank, ATC Dive Operations, and Obstacle Course and Turf Field (P-966); ATC Operations and Support and ATC Communications (P-950); Close Quarters Combat (P-918); NSWG-1 Multi-Purpose Canines Complex (P-967); and SERE (P-911) facilities.

With these various elements, along with their associated personnel, proposed to be concentrated in one place, a food service facility, which is a “service common” element not specific to NSWC, would be needed at the project site. Without a food service facility, there would be no food service provided on SSTC-South. Fire protection and emergency services improvements would include one or more of the following: (1) constructing a new fire station with a structural pumper, an ambulance, and associated staffing, (2) establishing a temporary fire station with firefighting apparatus, an ambulance, and staffing, (3) staging firefighting equipment including an ambulance at SSTC-South, (4) roving firefighting equipment including an ambulance, and (5) obtaining a deviation approval of the DoD Fire and Emergency Services Program (DoD Instruction 6055.06). Also included in the Proposed Action would be an entry control point (P-947) that would involve construction of a base main gate with sentry house and anti-terrorism/force protection (AT/FP) improvements including new traffic lanes for approach, queue, vehicle inspection, denial, and exit, plus reinforced fencing, a wall, traffic barrier systems, pedestrian gates, a security office, utilities, paving and site improvements, and parking; a fuel dispensing facility with capacity for approximately 3,000 gallons of gasoline (87 octane), 2,000 gallons of Diesel #2, 300 gallons of liquid petroleum, liquid propane, and 300 gallons of compressed natural gas; and a “mini-mart” type of store. For the purposes of analysis in this EIS, it is assumed that up to 20 existing structures (not

including Building 99, discussed separately below) and associated utilities and infrastructure at SSTC-South would need to be demolished to facilitate the new development proposed under Alternative 1.

Demolition of Building 99

The existing NRHP-eligible historic Building 99 at SSTC-South would be demolished (P-991) under this alternative, subject to review in compliance with the NEPA and NHPA Section 106 process. The Building 99 area, approximately 4.6 acres in size, is located in the central portion of the developable northern area of SSTC-South. Building 99 would prevent development of the 4.6 acres. With the removal of Building 99, this 4.6-acre area would be usable for the proposed NBC Coastal Campus development. Building 99 has a 17-foot-thick armored roof with approximately 49,900 cubic yards of reinforced concrete and steel. Demolition of Building 99 would be conducted with the use of small commercial explosives and/or diamond saws to initially break up the structure followed by drilling and hammering to further break up the materials. Abatement of lead-based paint/asbestos-containing materials surveyed would be conducted before demolition. The demolished concrete and steel would either be reused as part of the construction material for the Coastal Campus or removed to a local landfill. Assuming there is no reuse, removal of the debris would result in approximately 5,400 truck (round trip) trips from SSTC-South to I-5 via the Palm Avenue portion of SR-75. Complete demolition would last approximately 24 months; however, demolition debris would be stockpiled adjacent to the demolition site and the majority of the debris removal would occur over a 2- to 3-month period.

Traffic and Access Improvements

Primary access to the site would be provided from SR-75 in the northern portion of SSTC-South (Figure 2-3). This intersection and access would be improved with additional turn lanes on SR-75, improved ingress and egress from SR-75, and a new entry control point (P-947). The ingress/egress to SR-75 would require signalization. The proposed improvements to SR-75 would include a new southbound right-turn lane and a new northbound left-turn lane into the proposed Coastal Campus (Figure 2-6). The proposed southbound right-turn lane would be 12 feet wide with an 8-foot shoulder and approximately 485 feet long. The proposed northbound left-turn lane would be 12 feet wide and approximately 600 feet long. These improvements would occur within the California Department of Transportation (Caltrans) right-of-way. The ingress would include two 12-foot-wide lanes along with a 10-foot-wide bike/pedestrian lane. The egress would include two 12-foot-wide exit lanes that widen near the SR-75 intersection to two 12-foot-wide right-turn lanes and a 14-foot-wide left-turn lane. The entry control point would provide standard vehicle identification checks, personal identification checks, and truck inspection checks, along with parking. An entry control facility, including a 1,700-square-foot sentry house, would ensure the proper level of access control for all traffic to the Coastal Campus. The design of the entry control point would avoid or minimize headlight glare directed at the Coronado Cays.

The existing southern controlled access gate would remain open; however, use of this gate would be limited to current traffic volumes with construction of the proposed entry control point. Operation of the southern gate would have restricted hours. To avoid demolition and construction traffic from traveling through the southern controlled access gate and residential areas of Imperial Beach, temporary northern access would be provided until a permanent northern entry control point can be constructed. Improvements to the temporary northern access could include a traffic signal, a left-turn lane on northbound SR-75 into the site, and a right-turn lane on southbound SR-75 into the site. An acceleration

and deceleration lane may be required. These improvements would be within the Caltrans SR-75 right-of-way.

Future traffic improvements (P-991) would also be required at five intersections on Palm Avenue (SR-75). These improvements are described below and the improvements involving physical changes to intersections are shown in Figure 2-5:

- Rainbow Drive/Palm Avenue (SR-75) – restriping of the traffic lanes on Rainbow Drive and adjusting the intersection traffic signal phasing. These improvements would be needed by 2024.
- Palm Avenue (SR-75)/9th Street – adjusting the intersection traffic signal phasing. This improvement would be needed by 2040.
- Palm Avenue (SR-75)/13th Street – adjusting the intersection traffic signal phasing. This improvement would be needed by 2040.
- Palm Avenue (SR-75)/19th Street/Saturn Boulevard – street widening on Palm Avenue (SR-75) to change the westbound approach to include a second westbound left-turn lane. This improvement would be needed by 2040.
- I-5 southbound exit ramp/Palm Avenue (SR-75) – extend the southbound right-turn lanes on the exit ramp. This improvement would be needed by 2040.

The Navy will fund these off-site traffic improvements through the Defense Access Road program. The proposed signalization at the northern access/entry control point from SR-75 would allow authorized military personnel bicycle access from the Bayshore Bikeway to the Coastal Campus. There would be no other changes to the bikeway.

Utility Improvements

Utility improvements (P-991) would be required to serve the Coastal Campus. A 16-inch water line within a 30-foot-wide easement extends through the site north to south (Figure 2-3). The water easement is with California American Water Company. The existing 16-inch line would be tapped into at two locations to provide redundancy for the 10-inch fire main, as well as an additional tap for a 6-inch line for potable water service to the new MILCONs. California American Water Company has recommended that 200,000 gallons of on-site water storage along with booster pumps be included to handle peak flows. The water storage would be located in one or more water storage tanks proposed to be constructed within the on-site project footprint.

The 30-foot California American Water Company water easement may need to be relocated within a portion of the Alternative 1 footprint. It currently extends through the proposed Coastal Campus footprint, and constructing new facilities over the pipeline would hinder future pipeline maintenance and/or repair. The new alignment would follow the western boundary to the central portion of SSTC-South and then turn east to connect to the existing pipeline (Figure 2-3). The replaced portion(s) of the existing pipeline would be abandoned in place or excavated as part of the Coastal Campus construction.

The City of Imperial Beach has been providing wastewater service to SSTC-South via a 4-inch-diameter pressurized sewer main within Hooper Boulevard. This service would continue for the proposed Coastal

Campus. The connection would occur to the City of Imperial Beach's 6-inch-diameter wastewater line south of SSTC-South. A new wastewater conveyance system along with a wastewater storage facility and a proposed 450-gallons-per-minute (gpm) pump station would be included on-site. A new 6-inch-diameter sewer force main would be proposed (replacing the existing 4-inch-diameter main) extending approximately 4,000 feet from the center of the existing Wullenweber Antenna Array within Hooper Boulevard to the connection to the Imperial Beach system (Figure 2-3). Operational redundancy during emergency conditions would be provided by equipping the new pump station with an emergency storage facility capable of accommodating up to 6 hours of average sewer inflow.

Off-site improvements to the City's system may be required to accommodate the additional wastewater demand. It is assumed that the City's entire sewer main to Pump Station 5 (east of the intersection of Dahlia Avenue and Seacoast Drive) would be replaced (Figure 2-5). This would include upgrades to the sewer lines within Silver Strand Boulevard, Calia Avenue, and Seacoast Drive to Pump Station 5. Improvements to the sewer line within Imperial Beach Boulevard from 4th Street to East Lane may also be required. The proposed improvements would increase the 6-inch line to an 8-inch or 10-inch line. The Navy and the City of Imperial Beach would ensure that all necessary wastewater improvements are in place prior to operations of Coastal Campus facilities that would trigger thresholds requiring these improvements.

Electrical and natural gas service would be provided by San Diego Gas and Electric (SDG&E). Existing electrical service is available at the central, eastern boundary of SSTC-South along SR-75. The proposed electrical upgrades needed to serve the proposed Coastal Campus would be installed within the four existing 4-inch conduits on the eastern edge of SSTC-South. The existing switchgear building (Building S) has sufficient space to accommodate the electrical upgrades. These improvements would not require any ground disturbance.

On-site, the electrical system would be placed underground. A new natural gas line would need to be installed from the center of the existing Wullenweber Antenna Array south within the existing road to the connection at the SSTC-South/Imperial Beach boundary (Figure 2-3). Communication services would be provided on-site by the Navy.

Construction activities would generally be restricted to occur between 7:00 AM and 7:00 PM Mondays through Saturdays. On rare occasions, nighttime construction may be required but public notices would be posted for these activities.

Maintenance

The goal of project maintenance would be to provide efficient, cost-effective building maintenance services to maximize the life cycles of the Navy's physical assets. This would include:

- Routine operation and maintenance of:
    - electrical distribution, including generators;
    - lighting;
    - water and wastewater;
    - communication systems;
    - air conditioning/heating systems; and

- interiors of all the buildings and structures
  - interior rooms,
  - doors,
  - bathrooms and plumbing,
  - maintain working areas,
  - carpet,
  - flooring, and
  - ceilings; and
- exteriors of all the buildings and structures
  - roofs and
  - exterior finishes; and

- Maintain the:
  - waterproof integrity of all the buildings and structures;
  - grounds of the Coastal Campus including landscaping and irrigation systems;
  - storm water systems and NPDES permits;
  - roads and walkways; and
  - security facilities, including fencing, gates, electronics, and lighting.

2.5.3 Alternative 2 – SSTC-South Bunker Retention Alternative

Alternative 2 (SSTC-South Bunker Retention Alternative) would include all of the components of Alternative 1, except Building 99 would be retained rather than demolished and would be preserved in place or adaptively reused. All other existing structures on SSTC-South proposed for demolition under Alternative 1 would also be proposed for demolition under Alternative 2.

Under Alternative 2, the MILCONs included in the plan would be the same as those included in Alternative 1 and would provide the necessary operational resources for NSW. Similar to Alternative 1, Alternative 2 would be composed of general facility requirements, as described in Table 2-1. Similar to Alternative 1, also included would be an entry control point facility, a food service facility, a fuel dispensing facility, a "mini-mart" type of store, and improved fire protection and emergency services. The boundary for Alternative 2 would be the same as under Alternative 1.

The existing NRHP-eligible historic Building 99 at SSTC-South would be retained and preserved in place or adaptively reused under Alternative 2, subject to review in compliance with the NEPA and NHPA. Due to the central location and the areal extent of the bunker, the portion of the Alternative 2 footprint that could be developed for the Coastal Campus itself would be smaller (by 4.6 acres) than under Alternative 1 (Figure 2-7).

Similar to Alternative 1, under Alternative 2 primary access to the site would occur through construction of an entry control point in the northern portion of SSTC-South. These improvements would include ingress and egress, intersection signalization, a security facility, and parking. Existing access via the southern controlled gate would be as described for Alternative 1.

Traffic and access improvements, along with utility improvements, both on-site and off-site, would be the same as those described for Alternative 1 and shown in Figure 2-5.

2.5.4 Alternative 3 – Multi-Installation Alternative

Alternative 3 (Multi-Installation Alternative) would include all of the components described for Alternative 1 (SSTC-South Bunker Demolition Alternative), but these components would be located on three separate Navy installations: NAB Coronado, NASNI, and SSTC-South. As discussed in Section 2.4, neither NAB Coronado nor NASNI alone could accommodate the entire 1.5-million-square-foot Coastal Campus development; however, these installations could accommodate separate proposed uses, with the remaining proposed uses located at SSTC-South.

Under Alternative 3, the MILCONs included in the plan would be the same as those included under Alternative 1 and would provide the necessary operational resources for NSW. Similar to Alternative 1, Alternative 3 would be composed of general facility requirements, as described in Table 2-1. Similar to Alternative 1, also included would be an entry control point facility, a food service facility, a fuel dispensing facility, a "mini-mart" type of store, and improved fire protection and emergency services. The boundary and development acreages for Alternative 3 are shown in Table 2-4.

Alternative 3 differs from Alternative 1 in that four facilities included in the Proposed Action would not be clustered with the other uses at SSTC-South. Specifically, SEAL Team 17 (P-904), NSWG-11 Operations Support Facility (P-912), and the Resiliency Center (P-965) would be located at NAB Coronado, and the maintenance and logistics portion of the UAV facility (P-870) would be located at NASNI (Figure 2-8). All other proposed components would be located at SSTC-South, similar to Alternative 2, and the SSTC-South portion of the Alternative 3 footprint would be the same as that of Alternative 2. While Alternative 1 describes the advantages of including these facilities in an integrated campus with the rest of the facilities described above, below are potential reasons for taking a multi-installation approach with alternative siting of these facilities.

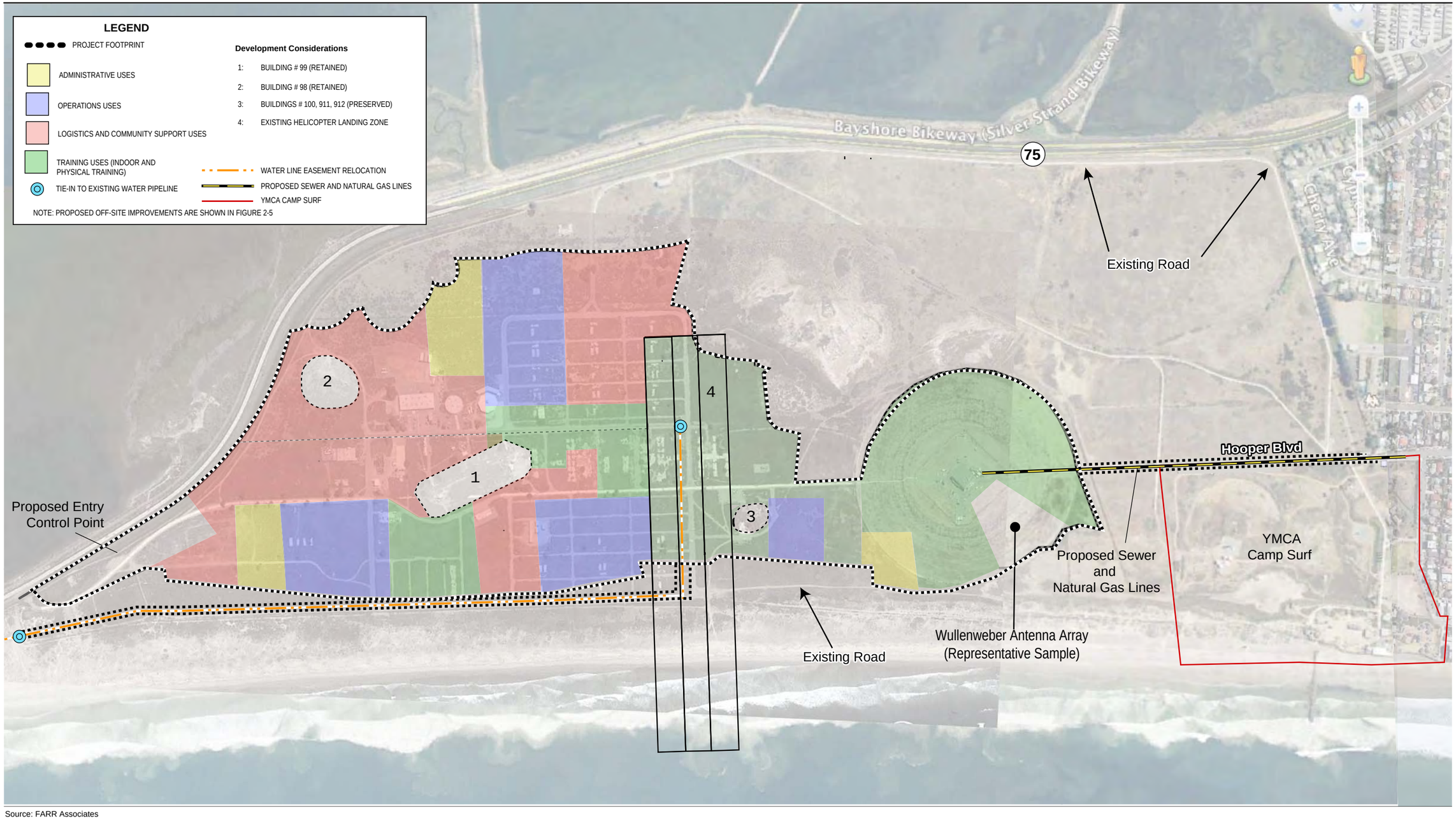
SEAL Team 17 is a reserve SEAL team that, by its nature, requires a training cycle that is different than that of the active SEAL teams. PERSTEMPO and ITEMPO considerations are different for the reserve team than for active teams and, while specific training elements are held in common, preparation for deployment differs, as does the cycle of deployment. Reserve SEAL teams have their own mission with different requirements and also supplement regular SEAL team operations and missions. Reserve SEAL teams would still rely upon the same resources and logistics support as other SEAL teams, and density of training for reserve SEALS does increase when deployment is approaching. However, the reserve SEAL team would not interact with the regular SEAL teams on a daily basis. Therefore, SEAL Team 17 (P-904) and the NSWG-11 Operations Support Facility (P-912) would remain located at NAB Coronado but would be accommodated in new facilities due to their outdated and undersized existing facilities, which would be demolished.

Under Alternative 3, the Resiliency Center (P-965) would also be located at NAB Coronado. Under any of the action alternatives, the Resiliency Center would support the entire NSWC constituency at NBC and not just those elements that would be located on a Coastal Campus within SSTC-South. Active duty SEALs and SWCCs and their families would likely generate the greatest service demand from the facility; location of the Resiliency Center at NAB, while potentially less convenient to those active duty SEALs and SWCCs spending the majority of their time at the Coastal Campus, would potentially be more convenient to other NSWC users at NBC.

NAB Coronado could support SEAL Team 17 (P-904) and the NSWG-11 Operations Support Facility (P-912) in the southern bayside portion of the installation. For the purposes of analysis in this EIS, it is assumed that up to 10 existing structures and associated utilities and infrastructure at NAB Coronado would need to be demolished to facilitate the new development proposed under Alternative 3. Given the existing and planned status of all buildings in the area identified at NAB Coronado, no compensatory construction would be required.

As described under Alternative 1, there would be advantages to having the UAV facility (P-870) co-located with the other elements included in the SSTC-South Coastal Campus, similar to the advantages of co-locating other elements in that campus. The dynamic nature of the NSW UAS Program could potentially require the development of administrative and operational training space as part of P-870 at the Coastal Campus, capitalizing on synergies developed between operational and logistical units as well as the need for adjacency and synergy with the Echelon III and other Echelon IV functions. UAV-specific considerations for maintenance and logistics would work well being located within the Coastal Campus due to the benefits of adjacency and synergies mentioned above. The same UAV-specific considerations for maintenance and logistics would make an alternative location potentially viable as well with the potential administrative and operational training space remaining at the Coastal Campus. Although a facility at NASNI would increase day-to-day transit times for support personnel, some benefits would occur with having the UAV facility located near a flight line for ease of immediate packaging and deployment to theatre on the next available flight. Under Alternative 3, the UAV maintenance and logistics facility included in the Proposed Action would be located near SBT-12 facilities at NASNI (Figure 2-8). No relocation of existing uses would be required at NASNI. It should be noted that the NSW UAS Program is evolving, due to the significance of its mission overseas and emerging requirements. As NSW collectively gains further guidance on what the UAS Program will ultimately become, further development at the Coastal Campus may be required. As the UAS Program evolves, NSW will monitor its implementation in relation to new information and inform the public of substantive changes.

The configuration of Alternative 3, as described above, would still provide the adjacency and synergy required to support the functionality of the various echelons/levels of command within the NSW organizational structure. Under Alternative 3, Building 99 would be retained as proposed in Alternative 2. Demolition of up to 20 other existing structures on SSTC-South was proposed for Alternative 1, and would also be proposed for Alternative 3. Site preparation for construction, such as demolition of existing infrastructure (e.g., roads) and site grading and leveling, would also be included.



Source: FARR Associates

800 400 0 800 Feet

Figure 2-7
Alternative 2 Proposed Conceptual Land Uses and On-site Improvements

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Source: ESRI 2013

Scale: 1:79,200; 1 inch = 1.25 miles
Inset Scale: 1:18,000; 1 inch = 1,500 ft

Figure 2-8
Alternative 3 Project Footprint

Path: P:\2011\60236207\06GIS\6.3_Layout\EIS\November_2014\fig2_8_Alt3.mxd, 11/24/2014, SorensenJ

Also similar to Alternative 1, primary access to SSTC-South under Alternative 3 would occur through construction of an entry control point in the northern portion of the site. All traffic and access improvements as well as utility improvements for Alternative 3 would be the same as those described for Alternative 1.

No additional access or utility improvements would be proposed at NAB Coronado or NASNI as a part of the Proposed Action, but routine maintenance and periodic system upgrades would continue to occur. Existing utilities at NAB Coronado and NASNI would be able to accommodate the proposed MILCONs at those installations.

2.5.5 Preferred Alternative

Alternative 1 (SSTC-South Bunker Demolition Alternative), described in detail in Section 2.5.2, is the preferred alternative because it provides an additional 4.6 acres of developable land. SSTC-South has a number of existing considerations for current and future development, including natural (vernal pools and wetlands in the southeastern portion of the site and Western Snowy Plover nesting areas on the beach area) and cultural (prehistoric and historic structures along the eastern boundary and throughout the northern central portion of SSTC-South) resources, an unprepared helicopter landing zone and flight path, a 30-foot-wide potable water line easement (California American Water Company), the segment of the historic Wullenweber Antenna Array that is being preserved, and two facilities with surrounding site uses that could not be entirely relocated off-site. Each of these limited the available developable area. With the proposed demolition of Building 99, Alternative 1 would provide an additional 4.6 acres of available developable area. Building 99 is located within the core or central area of the proposed Coastal Campus development and if retained, as in Alternatives 2 and 3, it would hinder an optimal design of the Coastal Campus including the internal road network, building orientation, and flow of personnel and operations. The additional 4.6 acres would allow for a more complete design and layout of the Coastal Campus structures and uses.

2.6 COMPARISON OF ALTERNATIVES

A summary comparison of the potential environmental impacts and mitigation measures and impact avoidance and minimization measures for each of the alternatives is presented in Table 2-5. Mitigation measures to address specific impacts from the proposed Coastal Campus are included in Table 2-6.

Table 2-5
Summary of Effects

Resource	No Action Alternative	Alternative 1 (Preferred Alternative)	Alternative 2	Alternative 3
3.1 Land Use and Recreation	Impacts: No effects on existing land uses; no incompatibility with existing land uses. Mitigation Measures: None. Impact Avoidance and Minimization Measures: None.	Impacts: Alternative 1 would expand the density and area of developed uses on SSTC-South but would not introduce incompatible land uses or be incompatible with existing land uses. Land use effects would not be significant. All off-site improvements (traffic and access and utility) would occur within infrastructure (roadways and utility) rights-of-way and corridors and would not have a significant land use impact. No recreational facilities on or off the installation would be adversely affected. Mitigation Measures: None. Impact Avoidance and Minimization Measures: None.	Impacts: Alternative 2, similar to Alternative 1, would expand the density and area of developed uses on SSTC-South but would not introduce incompatible land uses or be incompatible with existing land uses. Land use effects would not be significant. All off-site improvements (traffic and access and utility) would occur within infrastructure (roadways and utility) rights-of-way and corridors and would not have a significant land use impact. No recreational facilities on or off the installation would be adversely affected. Mitigation Measures: None. Impact Avoidance and Minimization Measures: None.	Impacts: Alternative 3, similar to Alternative 2, would expand the density and area of developed uses on SSTC-South but would not introduce incompatible land uses or be incompatible with existing land uses. The proposed facilities at NAB Coronado (P-904, P-912, and P-965) and NASNI (portion of P-870) would be developed in the footprints of existing buildings, consistent with the existing land use. Land use effects would not be significant. All off-site improvements (traffic and access and utility) would occur within infrastructure (roadways and utility) rights-of-way and corridors and would not have a significant land use impact. No recreational facilities on or off the installation would be adversely affected. Mitigation Measures: None. Impact Avoidance and Minimization Measures: None.

Resource	No Action Alternative	Alternative 1 (Preferred Alternative)	Alternative 2	Alternative 3
3.2 Geology and Soils	Impacts: No effects on geology and soils; no effect from geological hazards. Mitigation Measures: None. Impact Avoidance and Minimization Measures: None.	Impacts: Changes in topography would be relatively minor involving construction site leveling. SSTC-South possesses highly erodible soils. Strong seismically induced ground motion and associated ground shaking could occur. Adverse effects attributable to liquefaction and settlement are considered minor. Alternative 1 development would mostly occur outside the tsunami inundation area. No significant risk of seiches and landslides occurring. No significant geology and soils impacts would occur. Mitigation Measures: None. Impact Avoidance and Minimization Measures: • Prepare a detailed demolition plan for Building 99. • Compliance with the seismic design criteria identified in Uniform Building Code, the Naval Facilities Engineering Command (NAVFAC) P-355 Seismic Design Manual, and the design	Impacts: The geology and soils impacts would be the same as Alternative 1. Mitigation Measures: None. Impact Avoidance and Minimization Measures: • Compliance with the seismic design criteria identified in Uniform Building Code, the NAVFAC P-355 Seismic Design Manual, and the design specifications criteria of the Structural Engineering Association of California. • Prepare and comply with geotechnical studies that would be conducted for the Coastal Campus overall and/or all MILCON construction sites during project design. • Implement erosion control measures after construction. • Prepare a project-specific NPDES General Construction Permit and a SWPPP.	Impacts: The geology and soils impacts at SSTC-South would be the same as Alternative 1. The construction of the MILCONs on NAB Coronado and NASNI would occur on flat already developed areas with similar geology and soils impacts as described for SSTC-South. No significant geology and soils impacts would occur. Mitigation Measures: None. Impact Avoidance and Minimization Measures: These measures would be the same as for Alternative 2.

Resource	No Action Alternative	Alternative 1 (Preferred Alternative)	Alternative 2	Alternative 3
		specifications criteria of the Structural Engineering Association of California. • Prepare and comply with geotechnical studies that would be conducted for the Coastal Campus overall and/or for all MILCON construction sites during project design. • Implement erosion control measures after construction. • Prepare a project-specific National Pollutant Discharge Elimination System (NPDES) General Construction Permit and a Storm Water Pollution Prevention Plan (SWPPP).		
3.3 Air Quality	Impacts: No new construction or operational pollutant emissions sources would be generated; therefore, local and regional air quality would not be affected. Mitigation Measures: None. Impact Avoidance and Minimization Measures:	Impacts: Annual emissions would be less than *de minimis* levels in the San Diego Air Basin (SDAB); therefore, Alternative 1 would conform to the State Implementation Plan (SIP), and a formal conformity determination would not be required. The estimated annual Proposed Action emissions of all pollutants (volatile	Impacts: Annual emissions would be less than *de minimis* levels in the SDAB; therefore, Alternative 2 would conform to the SIP, and a formal conformity determination would not be required. The estimated annual Proposed Action emissions of all pollutants (VOCs, NO_X, CO, SO_X, PM_{10}, and $PM_{2.5}$) for Alternative 2 in 2015 through 2024 would be less	Impacts: Annual emissions would be less than *de minimis* levels in the SDAB; therefore, Alternative 3 would conform to the SIP, and a formal conformity determination would not be required. The estimated annual Proposed Action emissions of all pollutants (VOCs, NO_X, CO, SO_X, PM_{10}, and $PM_{2.5}$) for Alternative 3 in 2015 through 2024 would be less

Resource	No Action Alternative	Alternative 1 (Preferred Alternative)	Alternative 2	Alternative 3
	None.	organic compounds [VOCs], nitrogen oxide [NO_X], carbon monoxide [CO], oxides of sulfur [SO_X], and particulate matter [PM_{10} and $PM_{2.5}$]) for Alternative 1 in 2015 through 2024 would be less than the Prevention of Significant Deterioration (PSD) emissions rate thresholds. The air quality impacts would not be significant. Mitigation Measures: None. Impact Avoidance and Minimization Measures: To control fugitive dust and exhaust emissions and to minimize dust during demolition, grading and earthwork operations, and construction: • Implement best available control measures (BACM) in accordance with Chief of Naval Operations Instruction (OPNAVINST) 5090.1D, and applicable state (i.e., APCD) regulations. • Water all active construction areas at least twice daily. • Cover all trucks hauling	than the PSD emissions rate thresholds. The air quality impacts would not be significant. Mitigation Measures: None. Impact Avoidance and Minimization Measures: To control fugitive dust and exhaust emissions and to minimize dust during demolition, grading, and earthwork operations, and construction: • Implement BACM in accordance with OPNAVINST 5090.1D, and applicable state (i.e., APCD) regulations. • Water all active construction areas at least twice daily. • Cover all trucks hauling soil, sand, and other loose materials, or require all trucks to maintain at least 2 feet of freeboard. • Pave, apply water twice daily, or apply (nontoxic) soil stabilizers on all unpaved access roads, parking areas, and staging areas at construction sites. • Sweep streets daily (with water sweepers) if visible soil material is carried onto	than the PSD emissions rate thresholds. The air quality impacts would not be significant. Mitigation Measures: None. Impact Avoidance and Minimization Measures: To control fugitive dust and exhaust emissions and to minimize dust during demolition, grading, and earthwork operations, and construction, the measures proposed for Alternative 2 would also apply to Alternative 3.

Resource	No Action Alternative	Alternative 1 (Preferred Alternative)	Alternative 2	Alternative 3
		soil, sand, and other loose materials, or require all trucks to maintain at least 2 feet of freeboard. • Pave, apply water twice daily, or apply (nontoxic) soil stabilizers on all unpaved access roads, parking areas, and staging areas at construction sites. • Sweep streets daily (with water sweepers) if visible soil material is carried onto adjacent paved streets. • Prepare a detailed demolition plan to identify measures to break up, reuse to the maximum extent practical, and haul away the debris from the demolition of Building 99 and other structures. • Incorporate abatement measures if asbestos-containing building materials or lead-based paint is determined to be present during demolition.	adjacent paved streets. • Prepare a detailed demolition plan to identify measures to break up, reuse to the maximum extent practical, and haul away the debris from the demolition of structures. • Incorporate abatement measures if asbestos-containing building materials or lead-based paint is determined to be present during demolition.	
3.4 Hazardous Materials and Waste	Impacts: No changes to hazardous materials or hazardous waste use, transport, storage, or disposal would	Impacts: The quantity of hazardous materials transported to SSTC-South and the hazardous materials at	Impacts: The Alternative 2 hazardous materials, hazardous waste, USTs and IR sites impacts would be the same as	Impacts: The amount of hazardous materials used and the quantity of hazardous materials transported to

Resource	No Action Alternative	Alternative 1 (Preferred Alternative)	Alternative 2	Alternative 3
	occur. No hazardous materials and hazardous waste impacts would occur under the No Action Alternative. Mitigation Measures: None. Impact Avoidance and Minimization Measures: None.	SSTC-South would increase. However, the maximum quantities of these materials stored on-site would not increase, because the use increase would not trigger the need for expanded storage facilities. There would be a temporary increase in production of hazardous waste due to demolition and construction activities, however, contractors would be required to properly store, transport, and dispose of their hazardous waste so that there would be a minimal risk to human health or the environment. Although all former underground storage tanks (UST) have received regulatory closure, Alternative 1 has the potential to disturb the subsurface in the area of the former USTs which increases the risks to human health and the environment during excavation, transportation, and disposal. There are two Installation Restoration (IR) sites (IR Sites 10 and 11) at SSTC-South. IR Site 10 (rubble disposal area),	Alternative 1. Overall, Alternative 2 would not result in any significant hazardous materials and waste impacts. Mitigation Measures: None. Impact Avoidance and Minimization Measures: Same as Alternative 1.	SSTC-South, NAB Coronado, and NASNI along SR-75 would increase. However, the maximum quantities of these materials stored on-site would not increase, because the use increase would not trigger the need for expanded storage facilities. Wastes from demolition and construction activities at SSTC-South, NAB Coronado, and NASNI include waste from petroleum products, coolants, water, and residual petroleum contamination in soil at former USTs and IR Sites. Alternative 3 would include retention of Building 99 similar to Alternative 2. Therefore, under Alternative 3, the impacts with regard to hazardous waste would be the same as Alternative 2. Although all former UST have received regulatory closure, Alternative 3 has the potential to disturb the subsurface in the area of the former USTs which increases the risks to human health and the environment during excavation, transportation, and disposal. Similar to Alternative 1, IR Sites 10 and 11 at SSTC-

Resource	No Action Alternative	Alternative 1 (Preferred Alternative)	Alternative 2	Alternative 3
		located northeast of the Wullenweber Antenna Array, was granted No Further Action by the Regional Water Quality Control Board. IR Site 11 (asbestos), located near Building 100, was recommended for No Further Action and it has been closed. IR Sites 10 and 11 pose minimal risk to human health or the environment under Alternative 1. Alternative 1 would not result in any significant hazardous materials and waste impacts. <u>Mitigation Measures</u>: None. <u>Impact Avoidance and Minimization Measures</u>: • Comply with Navy's general instructions (e.g., OPNAVINST 5100.23) to ensure that hazardous materials and hazardous waste are stored and handled appropriately. • Compliance with the Navy's current mitigation measures including Hazardous Waste Management Plan, NBC		South pose minimal risk to human health or the environment under Alternative 3. There are five IR sites (IR Sites 1 through 5) at NAB Coronado; and 12 sites (IR Sites 1 through 12) at NASNI. Only IR Sites 1 through 4 for NAB Coronado and IR Site 10 for NASNI are near the proposed Alternative 3 development. At NAB Coronado, IR Site 1 (Building 603 disposal pit) is located along the oceanside shore on the northwestern corner of NAB Coronado with current status of No Further Action. IR Site 2 (Old Refuse Disposal and Burn Area) is located near the bayside shore of NAB Coronado and overlaps geographically with IR Site 4. This site is undergoing further investigation. IR Site 3 (New Paint Shop Site) is located near the northern boundary of NAB Coronado and is undergoing further investigation. IR Site 4 (Sandblast Grit Disposal Area) is located near the bayside shore of main base NAB Coronado and overlaps geographically with IR Site 2. Further investigation is being conducted for IR Site 4. At

Resource	No Action Alternative	Alternative 1 (Preferred Alternative)	Alternative 2	Alternative 3
		Hazardous Substance Release Integrated Contingency Plan (U.S. Navy 2008a), and Regional Explosive Hazardous Waste Management Plan (U.S. Navy 2004). • Field screen (e.g., air monitoring) during construction to identify potential residual petroleum contamination. • Manage and dispose of disturbed soil or debris in the event that residual contamination is encountered in accordance with Navy guidance, and applicable state and Federal regulations. • Prior to the start of any demolition activities, contractors shall perform hazardous building materials surveys in order to identify and implement appropriate control measures during demolition to protect human health (both worker and public) and the environment. Appropriate control measures may include		NASNI, IR Site 10 (Property Disposal Area) is located at the west side of NASNI in the vicinity of Building 805. Removal action was completed in April 2005 and further actions are still being conducted. IR Sites 1 through 4 at NAB Coronado pose minimal risk to human health and the environment because of their locations relative to the proposed improvements under Alternative 3. IR Site 10 at NASNI is currently under investigation and precautions should be taken during planning and construction to prevent exposure of workers and the environment to site contaminants. Alternative 3 would not result in any significant hazardous materials and waste impacts. <u>Mitigation Measures</u>: None. <u>Impact Avoidance and Minimization Measures</u>: Same as Alternative 1.

Resource	No Action Alternative	Alternative 1 (Preferred Alternative)	Alternative 2	Alternative 3
		preparation and implementation of demolition plans, lead compliance plans, and/or asbestos abatement plans, as necessary, depending upon the results of the hazardous materials building surveys. • A plan or guidance for the contractor should be in place in the event that unforeseen materials are discovered during demolition and construction. This would include communication and follow-on action protocol. • Where possible, avoid disturbing areas of known historical UST releases and/or IR sites.		
3.5 Water Quality and Hydrology	Impacts: No new construction or operational activities would occur; therefore, water quality would not be affected. Mitigation Measures: None. Impact Avoidance and Minimization Measures: None.	Impacts: Alternative 1 would create new impervious surfaces that could alter on-site and off-site drainage patterns, which could cause undesirable increases in surface runoff flow rates or discharge volumes. Construction could result in erosion, off-site sediment transport, pollution, and construction material spills	Impacts: Alternative 2 would not result in a greater amount of impervious surfaces and associated increased runoff than Alternative 1. Similar to Alternative 1, there could be an increase in construction-related impacts to receiving water quality and the amount of pollutants entering water resources within the area. Alternative 2 proposes	Impacts: The water quality and hydrology impacts at SSTC-South would be the same as Alternative 1. Development at NAB Coronado and NASNI would occur in developed areas and would not create new impervious surfaces. Similar for Alternative 1, construction at NAB Coronado and NASNI could result in erosion, off-

Resource	No Action Alternative	Alternative 1 (Preferred Alternative)	Alternative 2	Alternative 3
		that could impact receiving water quality. Operation could increase the potential for pollutant loading into surrounding water bodies. Alternative 1 proposes improvements to the existing storm water drainage system to accommodate increases in runoff. Improvements could result in construction-related impacts to receiving waters. No significant water quality and hydrology impacts would occur. <u>Mitigation Measures</u>: None. <u>Impact Avoidance and Minimization Measures</u>: • Impacts would be avoided by implementation of a project-specific SWPPP with BMPs. • All new facilities construction would include sustainable designs (i.e., Low Impact Development [LID], energy efficient design, and integrated layout). • Construction and postconstruction activities would adhere	improvements to the existing storm water drainage system to accommodate increases in runoff. No significant water quality and hydrology impacts would occur. <u>Mitigation Measures</u>: None. <u>Impact Avoidance and Minimization Measures</u>: Same as Alternative 1.	site sediment transport, pollution, and construction material spills that could impact receiving water quality. With the incorporation of the below measures, no significant water quality impacts would occur. <u>Mitigation Measures</u>: None. <u>Impact Avoidance and Minimization Measures</u>: Same as Alternative 1.

Resource	No Action Alternative	Alternative 1 (Preferred Alternative)	Alternative 2	Alternative 3
		to Federal, state, and local standards, as well as the measures specified in Section 5.5. By successfully complying with these measures, runoff during construction and postconstruction operations would be minimized and treated through LID, site design, and/or structural BMPs mandated by these measures.		
3.6 Noise	Impacts: No new construction or operational noise sources would be generated; therefore, ambient noise levels would not be affected and no noise impacts would occur. Mitigation Measures: None. Impact Avoidance and Minimization Measures: None.	Impacts: Under Alternative 1, demolition of existing facilities and infrastructure and the construction and operations of new facilities and infrastructure would add to the noise levels of the existing activities on SSTC-South and the area's ambient noise levels, which are characteristic of the urban environment and transportation activities (port and aviation) of the area. Alternative 1 would include the demolition of Building 99 in 2015–2016, which would generate noise from concrete drilling and sawing, blasting, concrete breaking, stockpiling, and truck	Impacts: Alternative 2 would retain Building 99; therefore, the associated demolition and hauling noise described for Alternative 1 would not occur. All other construction and operation noise would be similar to Alternative 1. Therefore, Alternative 2 would not have a significant impact to noise. Mitigation Measures: None. Impact Avoidance and Minimization Measures: To reduce noise impacts associated with project-related demolition activities, a detailed demolition plan would be prepared including	Impacts: Under Alternative 3, construction and operations of new facilities would be similar to Alternatives 1 and 2. Alternative 3 would include retention of Building 99 generating noise levels similar to Alternative 2. Construction and operations of Alternative 3 would not result in any significant noise impacts at NAB Coronado or NASNI. Therefore, Alternative 3 would not have a significant impact to noise. Mitigation Measures: None. Impact Avoidance and Minimization Measures: To reduce noise impacts

Resource	No Action Alternative	Alternative 1 (Preferred Alternative)	Alternative 2	Alternative 3
		hauling off-site. Temporary worst-case 8-hour averaged construction noise would be approximately 62 dBA at the Coronado Cays and 60 dBA at Imperial Beach. U.S. Navy and City of Imperial Beach regulations do not limit decibel levels of construction noise; however, the City of Coronado (Coronado Cays) limits daytime construction noise levels to 75 dBA L_{eq} and restricts construction noise to between 7:00 AM and 7:00 PM. The City of Imperial Beach prohibits construction noise at night between 10:00 PM and 7:00 AM. Nighttime construction is not likely to occur. Operation of Alternative 1 (i.e., facilities use and vehicle traffic) would increase ambient noise levels on SSTC-South; however, the increase would not result in a substantial increase in ambient noise levels; result in incompatible land use; or violate Federal, Navy, state, regional, or local noise standards or	public notification and complaint protocol.	associated with project-related demolition activities, a detailed demolition plan would be prepared including public notification and complaint protocol.

Resource	No Action Alternative	Alternative 1 (Preferred Alternative)	Alternative 2	Alternative 3
		requirements. Therefore, Alternative 1 would not have a significant impact to noise. Mitigation Measures: None. Impact Avoidance and Minimization Measures: To reduce noise impacts associated with project-related demolition activities, a detailed demolition and blasting plan for Building 99 would be prepared including public notification and complaint protocol.		
3.7 Biological Resources	Impacts: No impacts to biological resources. Mitigation Measures: None. Impact Avoidance and Minimization Measures: None.	Impacts: Alternative 1 would result in permanent direct impacts to 100 percent (166.85 acres) of the plant communities and cover types within the Proposed Action footprint. An additional 4.33 acres would be temporarily impacted through utility easements, of which 0.01 acre is jurisdictional waters. Additionally, there would be a loss of 0.15 acre of critical habitat for the Western Snowy Plover (*Charadrius nivosus nivosus*) from construction of the proposed entry control point	Impacts: Alternative 2 would result in permanent direct impacts to 100 percent (162.25 acres) of the plant communities and cover types within the Proposed Action footprint. An additional 4.33 acres would be temporarily impacted through utility easements, of which 0.01 acre is jurisdictional waters. Additionally, there would be a loss of 0.15 acre of critical habitat for the Western Snowy Plover from construction of the proposed entry control point and supporting road improvements. Alternative 2	Impacts: Alternative 3 would result in permanent direct impacts to 100 percent (171.2 acres) of the plant communities and cover types within the Proposed Action footprint. An additional 4.33 acres would be temporarily impacted through utility easements, of which 0.01 acre is jurisdictional waters. Additionally, there would be a loss of 0.15 acre of critical habitat for the Western Snowy Plover from construction of the proposed entry control point and supporting road

Resource	No Action Alternative	Alternative 1 (Preferred Alternative)	Alternative 2	Alternative 3
		and supporting road improvements. Alternative 1 has the potential to result in significant impacts to biological resources due to a loss of critical habitat for the Western Snowy Plover. Alternative 1 will have no effect on the following species: California Least Tern (*Sternula antillarum browni*), Least Bell's Vireo (*Vireo bellii pusillus*), Coastal California Gnatcatcher (*Polioptila californica californica*), and Pacific pocket mouse (*Perognathus longimembris pacificus*). Additionally, there are no anticipated adverse effects to any nonfederally listed rare or sensitive wildlife species, or wildlife corridors. Consistent with the USFWS Informal Consultation Concurrence Letter (FWS-SDG-14B0200-14I0295), the Federal Endangered Species Act determinations for the following species may affect but are not likely to adversely affect salt marsh bird's beak (*Chloropyron maritimum* ssp. *maritimum*), San Diego fairy shrimp (*Branchinecta*	has the potential to result in significant impacts to biological resources due to a loss of critical habitat for the Western Snowy Plover. Alternative 2 will have no effect on the following species: California Least Tern, Least Bell's Vireo, Coastal California Gnatcatcher, and Pacific pocket mouse. Additionally, there are no anticipated adverse effects to any nonfederally listed rare or sensitive wildlife species, or wildlife corridors. Consistent with the USFWS Informal Consultation Concurrence Letter (FWS-SDG-14B0200-14I0295), the Federal Endangered Species Act determinations for the following species may affect but aare not likely to adversely affect salt marsh bird's beak (*Chloropyron maritimum* ssp. *maritimum*), San Diego fairy shrimp (*Branchinecta sandiegoensis*), Light-footed Ridgway's Rail (*Rallus obsoletus levipes*), Western Snowy Plover, and critical habitat for the Western Snowy Plover.	improvements. Alternative 3 has the potential to result in significant impacts to biological resources due to a loss of critical habitat for the Western Snowy Plover. Since no sensitive biological resources occur within or adjacent to the project areas on NASNI or NAB Coronado, there would be no significant impacts to biological resources. Alternative 3 will have no effect on the following species: California Least Tern, Least Bell's Vireo, Coastal California Gnatcatcher, and Pacific pocket mouse. Additionally, there are no anticipated adverse effects to any nonfederally listed rare or sensitive wildlife species, or wildlife corridors. Consistent with the USFWS Informal Consultation Concurrence Letter (FWS-SDG-14B0200-14I0295), the Federal Endangered Species Act determinations for the following species may affect but are not likely to adversely affect salt marsh bird's beak (*Chloropyron maritimum* ssp. *maritimum*), San Diego fairy shrimp (*Branchinecta sandiegoensis*), Light-footed

Resource	No Action Alternative	Alternative 1 (Preferred Alternative)	Alternative 2	Alternative 3
		sandiegoensis), Light-footed Ridgway's Rail (*Rallus obsoletus levipes*), Western Snowy Plover, and critical habitat for the Western Snowy Plover. Mitigation Measures: None. Impact Avoidance and Minimization Measures: Measures would be implemented per the terms of USFWS Informal Consultation Concurrence Letter (FWS-SDG-14B0200-14I0295) received 12 September 2014. Sections 5.7.1 through 5.7.3.	Mitigation Measures: None. Impact Avoidance and Minimization Measures: Measures would be implemented per the terms of USFWS Informal Consultation Concurrence Letter (FWS-SDG-14B0200-14I0295) received 12 September 2014. Sections 5.7.1 through 5.7.3.	Ridgway's Rail (*Rallus obsoletus levipes*), Western Snowy Plover, and critical habitat for the Western Snowy Plover. Mitigation Measures: None. Impact Avoidance and Minimization Measures: Measures would be implemented per the terms of USFWS Informal Consultation Concurrence Letter (FWS-SDG-14B0200-14I0295) received 12 September 2014. Sections 5.7.1 through 5.7.3.
3.8 Cultural Resources	Impacts: No effects to cultural resources. Mitigation Measures: None. Impact Avoidance and Minimization Measures: None.	Impacts: Demolition of Building 99, a contributor to the NRHP-eligible Fort Emory Coastal Defense Historic District would constitute an adverse effect to this historic property. The proposed ground-disturbing off-site traffic, access, and utilities improvements have the potential to impact cultural resources. Mitigation Measures: In accordance with 36	Impacts: The proposed ground-disturbing off-site traffic, access, and utilities improvements have the potential to impact cultural resources. Mitigation Measures: Mitigation measures would not be required under a finding of no adverse effect. Impact Avoidance and Minimization Measures: Alternative 2 would be developed in compliance with NHPA Section 106 under the	Impacts: The proposed ground-disturbing off-site traffic, access, and utilities improvements have the potential to impact cultural resources. Mitigation Measures: Mitigation measures would not be required under a finding of no adverse effect. Impact Avoidance and Minimization Measures: Alternative 3 would be developed in compliance with NHPA Section 106 under the

Resource	No Action Alternative	Alternative 1 (Preferred Alternative)	Alternative 2	Alternative 3
		C.F.R. 800.6, resolution of the adverse effect to the Fort Emory Coastal Defense Historic District was defined during the Section 106 consultation with SHPO, the Advisory Council on Historic Preservation, and other consulting parties through development and execution of a Memorandum of Agreement (MOA). Actions stipulated in the MOA for resolving the adverse effect would be required to be completed in advance of the initiation of the undertaking activities creating the adverse effect. <u>Impact Avoidance and Minimization Measures</u>: Alternative 1 would be developed in compliance with NHPA Section 106 under the NBC PA, as implemented through the NBC ICRMP. Potential impacts to cultural resources from proposed ground-disturbing off-site traffic, access, and utilities improvements would be addressed through the following measures:	NBC PA, as implemented through the NBC ICRMP. Potential impacts to cultural resources from proposed ground-disturbing off-site traffic, access, and utilities improvements would be addressed through the following measures: Cultural-1: The Navy would coordinate with State Parks and Caltrans for cultural resources surveys for the proposed ground-disturbing off-site traffic and access improvements. Cultural-2: A Monitoring and Discovery Plan would be prepared and implemented prior to the start of ground-disturbing construction activities. Cultural-3: Cultural resources monitoring would be required during mechanical excavation associated with the off-site traffic, access, and utilities improvements. Cultural-4: The accidental discovery of human remains during mechanical excavation would be addressed in compliance	NBC PA, as implemented through the NBC ICRMP. Potential impacts to cultural resources from proposed ground-disturbing off-site traffic, access, and utilities improvements would be addressed through the following measures: Cultural-1: The Navy would coordinate with State Parks and Caltrans for cultural resources surveys for the proposed ground-disturbing off-site traffic and access improvements. Cultural-2: A Monitoring and Discovery Plan would be prepared and implemented prior to the start of ground-disturbing construction activities. Cultural-3: Cultural resources monitoring would be required during mechanical excavation associated with the off-site traffic, access, and utilities improvements. Cultural-4: The accidental discovery of human remains during mechanical excavation would be addressed in compliance

Resource	No Action Alternative	Alternative 1 (Preferred Alternative)	Alternative 2	Alternative 3
		Cultural-1: The Navy would coordinate with State Parks and Caltrans for cultural resources surveys for the proposed ground-disturbing off-site traffic and access improvements. Cultural-2: A Monitoring and Discovery Plan would be prepared and implemented prior to the start of ground-disturbing construction activities. Cultural-3: Cultural resources monitoring would be required during mechanical excavation associated with the off-site traffic, access, and utilities improvements. Cultural-4: The accidental discovery of human remains during mechanical excavation would be addressed in compliance with NAGPRA for remains found on military Federal lands, and through consultation with the NAHC for remains found on nonmilitary Federal lands and non-Federal lands.	with NAGPRA for remains found on military Federal lands, and through consultation with the NAHC for remains found on nonmilitary Federal lands and non-Federal lands.	with NAGPRA for remains found on military Federal lands, and through consultation with the NAHC for remains found on nonmilitary Federal lands and non-Federal lands.
3.9 Traffic and Circulation	Impacts: Construction No significant impacts	Impacts: Construction The study intersections that	Impacts: Construction The study intersections that	Impacts: Construction The study intersections that

Resource	No Action Alternative	Alternative 1 (Preferred Alternative)	Alternative 2	Alternative 3
	would occur at the study intersections. Year 2024 **1 CVN:** No significant impacts would occur at the study intersections. **2 CVNs:** No significant impacts would occur at the study intersections. **3 CVNs:** An analysis of three-CVN conditions was not performed; however, the staggered work hours required when three CVNs are in port results in conditions similar to or better than the results for two-CVN conditions. As two-CVN conditions have no significant impacts at the study intersections, it can be concluded that no significant impacts would occur at the study intersections while three CVNs are in port. Year 2040 The impacts for 2040 would be the same as for 2024. Mitigation Measures:	would have a significant impact during construction due to the addition of Alternative 1 for a "North Only" scenario are shown in Table 3.9-7 and summarized as follows: • Year 2015, 6 locations • Year 2016, 6 locations • Year 2017, 7 locations • Year 2018, 8 locations • Year 2019, 12 locations • Year 2020, 12 locations • Year 2021, 12 locations • Year 2022, 12 locations • Year 2023, 12 locations The number of study intersections that would have a significant impact during construction due to the addition of Alternative 1 for a "Construction North, Operations South" scenario is shown in Table 3.9-8 and summarized as follows: • Year 2015, 6 locations • Year 2016, 6 locations • Year 2017, 9 locations • Year 2018, 10 locations • Year 2019, 14 locations • Year 2020, 16 locations • Year 2021, 16 locations • Year 2022, 14 locations • Year 2023, 14 locations Postconstruction Year 2024	would have a significant impact during construction due to the addition of Alternative 2 for a "North only" scenario are shown in Table 3.9-11. The number of study intersections that would have a significant impact during construction due to the addition of Alternative 2 for a "Construction North, Operations South" scenario is shown in Table 3.9-12. The number of intersections impacted by construction traffic for Alternative 2 would be the same as described above for Alternative 1, albeit to a more severe degree. Postconstruction Year 2024 The significant impacts at the study intersections for Alternative 2 would be identical to the findings for Alternative 1. Postconstruction Year 2040 The significant impacts at the study intersections for Alternative 2 would be identical to the findings for Alternative 1. Construction Mitigation Measures: None	would have a significant impact during construction due to the addition of Alternative 3 for a "North Only" scenario are shown in Table 3.9-13 and summarized as follows: • Year 2015, 6 locations • Year 2016, 6 locations • Year 2017, 9 locations • Year 2018, 10 locations • Year 2019, 14 locations • Year 2020, 16 locations • Year 2021, 15 locations • Year 2022, 13 locations • Year 2023, 14 locations The number of study intersections that would have a significant impact during construction due to the addition of Alternative 3 for a "Construction North, Operations South" scenario is shown in Table 3.9-14 and summarized as follows: • Year 2015, 6 locations • Year 2016, 6 locations • Year 2017, 9 locations • Year 2018, 10 locations • Year 2019, 14 locations • Year 2020, 16 locations • Year 2021, 17 locations • Year 2022, 17 locations • Year 2023, 13 locations Postconstruction Year 2024 **1 CVN:**

Resource	No Action Alternative	Alternative 1 (Preferred Alternative)	Alternative 2	Alternative 3
	None. Impact Avoidance and Minimization Measures: None.	**1 CVN:** Five of the study intersections would have a significant impact in Year 2024 due to the addition of Alternative 1: • Silver Strand Blvd (SR-75) & Tulagi Rd • Silver Strand Blvd (SR-75) & Rainbow Dr • 9th St & Palm Ave (SR-75) • 13th St & Palm Ave (SR-75) • Saturn Blvd/19th St & Palm Ave (SR-75) **2 CVNs:** Six of the study intersections would have a significant impact in Year 2024 due to the addition of Alternative 1: • Silver Strand Blvd (SR-75) & Tulagi Rd • Silver Strand Blvd (SR-75) & Rainbow Dr • 7th St & Palm Ave (SR-75) • 9th St & Palm Ave (SR-75) • 13th St & Palm Ave (SR-75) • Saturn Blvd/19th St & Palm Ave (SR-75) **3 CVNs:** An analysis of three-CVN conditions was not	Impact Avoidance and Minimization Measures: The impact avoidance and minimization measures would be identical to those presented in Alternative 1. Postconstruction Years 2024 and 2040 Mitigation Measures: The mitigation measures would be identical to those presented in Alternative 1. Impact Avoidance and Minimization Measures: The impact avoidance and minimization measures would be identical to those presented in Alternative 1.	Five of the study intersections would have a significant impact in Year 2024 due to the addition of Alternative 3: • Silver Strand Blvd (SR-75) & Tulagi Rd • Silver Strand Blvd (SR-75) & Rainbow Dr • 9th St & Palm Ave (SR-75) • 13th St & Palm Ave (SR-75) • Saturn Blvd/19th St & Palm Ave (SR-75) **2 CVNs:** Six of the study intersections would have a significant impact in Year 2024 due to the addition of Alternative 3: • Orange Ave (SR-75) & Fourth St (SR-75) • Silver Strand Blvd (SR-75) & Tulagi Rd • Silver Strand Blvd (SR-75) & Rainbow Dr • 9th St & Palm Ave (SR-75) • 13th St & Palm Ave (SR-75) • Saturn Blvd/19th St & Palm Ave (SR-75) **3 CVNs:** An analysis of three-CVN conditions was not performed. With the staggered work hours required when three CVNs are in port, the results of the

Resource	No Action Alternative	Alternative 1 (Preferred Alternative)	Alternative 2	Alternative 3
		performed. With the staggered work hours required when three CVNs are in port, the results of the intersection analysis would be similar to or better than the results for two-CVN conditions. <u>Postconstruction Year 2040</u> **1 CVN:** Seven of the study intersections would have a significant impact in Year 2040 due to the addition of Alternative 1: • Silver Strand Blvd (SR-75) & Tulagi Rd • Silver Strand Blvd (SR-75) & Rainbow Dr • 7th Street & Palm Ave (SR-75) • 9th Street & Palm Ave (SR-75) • 13th Street & Palm Ave (SR-75) • Saturn Blvd/19th St & Palm Ave (SR-75) • I-5 SB Exit Ramp & Palm Ave (SR-75) **2 CVNs:** Eight of the study intersections would have a significant impact in Year 2040 due to the addition of Alternative 1:		intersection analysis would be similar to or better than the results for two-CVN conditions. <u>Postconstruction Year 2040</u> **1 CVN:** Seven of the study intersections would have a significant impact in Year 2040 due to the addition of Alternative 3: • Silver Strand Blvd (SR-75) & Tulagi Rd • Silver Strand Blvd (SR-75) & Rainbow Dr • 7th Street & Palm Ave (SR-75) • 9th Street & Palm Ave (SR-75) • 13th Street & Palm Ave (SR-75) • Saturn Blvd/19th St & Palm Ave (SR-75) • Palm Ave (SR-75) & I-5 SB Exit Ramp **2 CVNs:** Eight of the study intersections would have a significant impact due to the addition of Alternative 3: • Orange Ave (SR-75) & Fourth St (SR-75) • Silver Strand Blvd (SR-75) & Tulagi Rd • Silver Strand Blvd (SR-75) & Rainbow Dr

Resource	No Action Alternative	Alternative 1 (Preferred Alternative)	Alternative 2	Alternative 3
		• Silver Strand Blvd (SR-75) & Tulagi Rd • Silver Strand Blvd (SR-75) & Fiddler's Cove Dwy • Silver Strand Blvd (SR-75) & Rainbow Dr • 7th Street & Palm Ave (SR-75) • 9th Street & Palm Ave (SR-75) • 13th Street & Palm Ave (SR-75) • Saturn Blvd/19th St & Palm Ave (SR-75) • I-5 SB Exit Ramp & Palm Ave (SR-75) **3 CVNs:** An analysis of three-CVN conditions was not performed. With the staggered work hours required when three CVNs are in port, the results of the intersection analysis would be similar to or better than the results for two-CVN conditions. <u>Construction Mitigation Measures:</u> None <u>Impact Avoidance and Minimization Measures:</u> t-1: Accelerate implementation of new		• 7th Street & Palm Ave (SR-75) • 9th Street & Palm Ave (SR-75) • 13th Street & Palm Ave (SR-75) • Saturn Blvd/19th St & Palm Ave (SR-75) • Palm Ave (SR-75) & I-5 SB Exit Ramp **3 CVNs:** An analysis of three-CVN conditions was not performed. With the staggered work hours required when three CVNs are in port, the results of the intersection analysis would be similar to or better than the results for two-CVN conditions. <u>Construction Mitigation Measures:</u> None <u>Impact Avoidance and Minimization Measures:</u> The impact avoidance and minimization measures would be identical to those presented in Alternative 1. <u>Postconstruction Year 2024 Mitigation Measures:</u> The mitigation measures would be identical to those

Resource	No Action Alternative	Alternative 1 (Preferred Alternative)	Alternative 2	Alternative 3
		entry control point at SSTC-South. t-2: Include construction management in the design aspect of the Proposed Action. t-3: Coordinate construction activity with NBC representatives to monitor daily activity levels. t-4: Schedule heavy periods of vehicle activity during non-peak hours. t-5: Encourage carpooling and staggered work hours for construction workers. t-6: Notify public stakeholders of times where abnormal construction activity would occur. <u>Postconstruction Year 2024</u> <u>Mitigation Measures:</u> T-1: Modification of signal operations at Silver Strand Blvd (SR-75) & Tulagi Rd T-2: Modification of eastbound approach configuration at Silver Strand Blvd (SR-75) & Rainbow Drive T-3: Modification of northbound and southbound approach configurations at 9th Street & Palm Avenue (SR-75)		presented in Alternative 1. <u>Impact Avoidance and Minimization Measures:</u> t-1: Accelerate implementation of new entry control point at SSTC-South See Section 5.9 for more details on these measures. <u>Postconstruction Year 2040 Mitigation Measures:</u> The mitigation measures would be identical to those presented in Alternative 1. <u>Impact Avoidance and Minimization Measures:</u> t-1: Accelerate implementation of new entry control point at SSTC-South See Section 5.9 for more details on these measures.

Resource	No Action Alternative	Alternative 1 (Preferred Alternative)	Alternative 2	Alternative 3
		T-4: Removal of east leg pedestrian crossing at 13th Street & Palm Avenue (SR-75) T-5: Addition of a second westbound left-turn lane at Saturn Blvd/19th St & Palm Ave (SR-75) T-6: Modification of southbound approach configuration at 7th St & Palm Ave (SR-75) <u>Impact Avoidance and Minimization Measures:</u> t-1: Accelerate implementation of new entry control point at SSTC-South. See Section 5.9 for more details on these measures. <u>Postconstruction Year 2040</u> <u>Mitigation Measures:</u> T-1: Modification of signal operations at Silver Strand Blvd (SR-75) & Tulagi Rd. T-2: Modification of eastbound approach configuration at Silver Strand Blvd (SR-75) & Rainbow Drive. T-3: Modification of northbound and southbound approach configurations at 9th Street & Palm Avenue (SR-75).		

Resource	No Action Alternative	Alternative 1 (Preferred Alternative)	Alternative 2	Alternative 3
		T-4: Removal of east leg pedestrian crossing at 13th Street & Palm Avenue (SR-75). T-5: Addition of a second westbound left-turn lane at Saturn Blvd/19th St & Palm Ave (SR-75) T-6: Modification of southbound approach configuration at 7th St & Palm Ave (SR-75). T-7: Extend the southbound right-turn lanes at Palm Ave (SR-75) & I-5 SB Exit Ramp. T-8: Restriction of left turns out of Fiddler's Cove Driveway and Silver Strand Boulevard (SR-75). <u>Impact Avoidance and Minimization Measures:</u> t-1: Accelerate implementation of new entry control point at SSTC-South. t-2: Monitor westbound left-turn delays and safety at the intersection of Silver Strand Blvd (SR-75) & Fiddler's Cove Dwy. See Section 5.9 for more details on these measures.		
3.10 Socioeconomics and Environmental Justice	<u>Impacts</u>: No effects on socioeconomics. No	<u>Impacts</u>: Effects of the Proposed Action on socioeconomics	<u>Impacts</u>: Similar to Alternative 1, with fewer impacts associated	<u>Impacts</u>: Similar to Alternative 1, with fewer impacts associated

Resource	No Action Alternative	Alternative 1 (Preferred Alternative)	Alternative 2	Alternative 3
	disproportionately high and adverse human health and environmental effects on minority populations and low-income populations. No environmental health risks and safety risks that disproportionately affect children. Mitigation Measures: None. Impact Avoidance and Minimization Measures: None.	would be largely beneficial in terms of employment and economic output; no impacts are anticipated to population or housing. Temporary debris removal and construction-related traffic would not have a significant socioeconomic impact. Significant and unmitigable temporary traffic impacts may occur during the construction phase of the project along the transportation route between the Proposed Action footprint and I-5 in Imperial Beach. The U.S. census tracts along this corridor all contain populations with high proportions of minority and/or low-income residents. With the implementation of impact avoidance and minimization measures, however, these construction traffic impacts for Alternative 1 would not be high and adverse. Alternative 1 would not result in disproportionately high and adverse human health and environmental effects on minority populations and low-income populations.	with debris removal. Alternative 2 would have no significant socioeconomic impacts, would not result in disproportionately high and adverse human health and environmental effects on minority populations and low-income populations, and would not result in environmental health risks and safety risks that disproportionately affect children. Mitigation Measures: None Impact Avoidance and Minimization Measures: Same as for Alternative 1.	with debris removal. Alternative 3 would have no significant socioeconomic impacts, would not result in disproportionately high and adverse human health and environmental effects on minority populations and low-income populations, and would not result in environmental health risks and safety risks that disproportionately affect children. Mitigation Measures: None Impact Avoidance and Minimization Measures: Same as for Alternative 1.

Resource	No Action Alternative	Alternative 1 (Preferred Alternative)	Alternative 2	Alternative 3
		Similarly, these same census tracts contain a disproportionately large percentage of children, but with the implementation of impact avoidance and minimization measures construction traffic impacts for Alternative 1 would not present disproportionate risks to children. Alternative 1 would not result in environmental health risks and safety risks that disproportionately affect children. Mitigation Measures: None Impact Avoidance and Minimization Measures: • Pedestrian routes along the transportation corridor would be maintained or temporary alternate routes provided and clearly marked during the construction of traffic and access improvements and during the Proposed Action construction phase when traffic would be heavier than under normal conditions. • Residents in the affected census tracts would be		

Resource	No Action Alternative	Alternative 1 (Preferred Alternative)	Alternative 2	Alternative 3
		notified of increased construction traffic via direct mail and road signage. • Emergency public services and other appropriate law enforcement agencies would be notified of increased traffic and how construction traffic may affect emergency response times.		
3.11 Public Health and Safety	Impacts: No change to any public health and safety concerns. Mitigation Measures: None. Impact Avoidance and Minimization Measures: None.	Impacts: Demolition of Building 99 could include the use of small commercial explosives and/or diamond saws and drilling and hammering to break up the materials. The demolition debris would either be reused as part of the construction material for the Coastal Campus or removed to a local landfill. A detailed demolition plan would be prepared prior to demolition activities. Construction activities would be typical of military structures, would primarily occur within the footprint of SSTC-South, and would include all standard construction safety procedures. Construction activities would not result in	Impacts: Impacts would be similar to those for Alternative 1, except Alternative 2 would not include the demolition of Building 99. No significant public health and safety impacts would occur. Mitigation Measures: None. Impact Avoidance and Minimization Measures: Same as Alternative 1.	Impacts: Impacts would be the same as Alternative 2, except construction would also occur at NAB Coronado and NASNI. No significant public health and safety impacts would occur. Mitigation Measures: None. Impact Avoidance and Minimization Measures: Same as Alternative 1.

Resource	No Action Alternative	Alternative 1 (Preferred Alternative)	Alternative 2	Alternative 3
		a significant public health and safety impact. Postconstruction use activities would pose no substantial risk to public health and safety. Terrorist activity, although unlikely, would not be considered a significant impact to public health and safety. Mitigation Measures: None. Impact Avoidance and Minimization Measures: • Compliance with all standard construction safety procedures and applicable subparts of the Occupational Safety and Health Administration standards. • Preparation of a detailed demolition and lead/asbestos abatement plan. • Prior to the start of any demolition activities, contractors shall perform hazardous building materials surveys in order to identify and implement appropriate control measures during demolition to protect		

Resource	No Action Alternative	Alternative 1 (Preferred Alternative)	Alternative 2	Alternative 3
		human health (both worker and public) and the environment. Appropriate control measures may include preparation and implementation of demolition plans, lead compliance plans, and/or asbestos abatement plans, as necessary, depending upon the results of the hazardous materials building surveys. • Compliance with the NBC Installation Emergency Management Plan and its relevant supporting plans.		
3.12 Utilities and Public Services	Impacts: No change to any utilities and public services would occur and therefore no impacts would occur. Mitigation Measures: None. Impact Avoidance and Minimization Measures: None.	Impacts: *Water* The existing 16-inch/20-inch water line would adequately serve the water demand from Alternative 1 with both domestic and fire services. With the proposed water facility improvements, such as additional water storage tanks and booster pumps, there would not be a significant water supply impact. The existing 16-inch/20-inch water line may need to be relocated.	Impacts: *Water* Similar to Alternative 1, the existing 16-inch/20-inch water line would adequately serve the water demand from Alternative 2 with both domestic and fire services. Also with the proposed water facility improvements, there would not be a significant water supply impact. The existing 16-inch/20-inch water line may need to be relocated. *Wastewater* Similar to Alternative 1, with	Impacts: *Water* Similar to Alternative 1, the existing 16-inch/20-inch water line would adequately serve the water demand from Alternative 3 with both domestic and fire services and with the proposed water facility improvements. There is adequate water at NAB Coronado and NASNI. There would not be a significant water supply impact with Alternative 3. *Wastewater* Similar to Alternative 1, with

Resource	No Action Alternative	Alternative 1 (Preferred Alternative)	Alternative 2	Alternative 3
		Wastewater The City of Imperial Beach's wastewater system may not have capacity to handle the additional peak morning flows. With the installation of the required wastewater improvements (upgrades to the City's system within Silver Strand Boulevard, Calia Avenue, and Seacoast Drive to Pump Station 5 and within Imperial Beach Boulevard from 4th Street to East Lane), no significant wastewater impact would occur. *Electrical* Electrical capacity upgrades would be needed to maintain the desired primary/back-up service. The use of renewable energy would be included. With the installation of the required electrical upgrades, there would be no significant impact. *Natural Gas* New natural gas service would be connected to the line at the south gate entrance to serve the demand from Alternative 1.	the installation of the required wastewater improvements, no significant wastewater impact would occur. *Electrical* Similar to Alternative 1, electrical capacity upgrades would be needed to maintain the desired primary/back-up service. The use of renewable energy would be included. With the installation of the required electrical upgrades, there would be no significant impact. *Natural Gas* New natural gas service would be connected to the line at the south gate entrance with no significant natural gas impacts. *Communication* The site is served by AT&T and a new on-site Navy communication system would be constructed to serve the individual buildings within the Coastal Campus. No communication impacts would be expected for Alternative 2. *Storm Water* Similar to Alternative 1, the	the installation of the required wastewater improvements, no significant wastewater impact would occur. There is adequate wastewater capacity at NAB Coronado and NASNI. *Electrical* Similar to Alternative 1, electrical capacity upgrades would be needed to maintain the desired primary/back-up service. The use of renewable energy would be included. With the installation of the required electrical upgrades, there would be no significant impact. There is adequate electrical capacity at NAB Coronado and NASNI. *Natural Gas* New natural gas service would be connected to the line at the south gate entrance. There is adequate natural gas capacity at NAB Coronado and NASNI. There would be no significant natural gas impacts *Communication* The site is served by AT&T and a new private on-site Navy communication system would be constructed to

Resource	No Action Alternative	Alternative 1 (Preferred Alternative)	Alternative 2	Alternative 3
		No significant natural gas impacts would be expected. *Communication* The site is served by AT&T and a new on-site Navy communication system would be constructed to serve the individual buildings within the Coastal Campus. No communication impacts would be expected. *Storm Water* The Alternative 1 drainage design would maintain existing runoff patterns to the maximum extent practical, and retain all runoff on-site (zero discharge) for treatment. Runoff would be directed to different types of LID storm water treatment and storage facilities to remove various pollutants from the runoff and to store storm water for on-site infiltration and evaporation. These design features would reduce runoff volume, capture runoff pollutants on-site, provide groundwater recharge, and offer a supplemental resource for irrigation	Alternative 2 drainage design would maintain existing runoff patterns to the maximum extent practical, and retain all runoff on-site (zero discharge) for treatment. Runoff would be directed to different types of LID storm water treatment and storage facilities to remove various pollutants from the runoff and to store storm water for on-site infil-tration and evaporation. These design features would reduce runoff volume, capture runoff pollutants on-site, provide groundwater recharge, and offer a supplemental resource for irrigation and/or graywater use in facility buildings. No significant storm water impacts would result. <u>Public Services</u> *Police* Appropriate safety and security lighting and security fencing would be installed where necessary. No significant police services impact would result. *Fire* Construction of all facilities would meet all applicable fire codes and regulations.	serve the individual buildings within the Coastal Campus. There is adequate communication service at NAB Coronado and NASNI. No communication impacts would be expected for Alternative 3. *Storm Water* Storm water impacts for Alternative 3 would be the same as Alternative 1 on SSTC-South. The existing storm water systems that served the previous development at NAB Coronado and NASNI would adequately handle P-904, P-912, and P-965 and a portion of P-870, respectively. There would not be a significant storm water impact at SSTC-South, NAB Coronado, or NASNI as a result of development of Alternative 3. <u>Public Services</u> *Police* Appropriate safety and security lighting and security fencing would be installed where necessary. No significant police services impact would result. *Fire* Construction of all facilities

Resource	No Action Alternative	Alternative 1 (Preferred Alternative)	Alternative 2	Alternative 3
		and/or graywater use in facility buildings. No significant storm water impact would occur. <u>Public Services</u> *Police* Appropriate safety and security lighting and security fencing would be installed where necessary. No significant police services impact would result. *Fire* Construction of all facilities would meet all applicable fire codes and regulations. Project design would include appropriate and required fire safety design such as sprinkler systems, fire flow requirements, and all other necessary fire safety features. Fire protection and emergency services improvements would include one or more of the following: (1) constructing a new fire station with a structural pumper, an ambulance, and associated staffing, (2) establishing a temporary fire station with firefighting apparatus, an ambulance, and staffing, (3) staging	Project design would include appropriate and required fire safety design such as sprinkler systems, fire flow requirements, and all other necessary fire safety features. Fire protection and emergency services improvements would include one or more of the following: (1) constructing a new fire station with a structural pumper, an ambulance, and associated staffing, (2) establishing a temporary fire station with firefighting apparatus, an ambulance, and staffing, (3) staging firefighting equipment including an ambulance at SSTC-South, (4) roving firefighting equipment including an ambulance, and (5) obtaining a deviation approval of the DoD Fire and Emergency Services Program (DoD Instruction 6055.06). These improvements would be supplemented by continued mutual aid agreements. No significant fire services impact would result. *Solid Waste* Alternative 2 would be compliant with EO 13514 and EO 13423 specific to waste	would meet all applicable fire codes and regulations. Project design would include appropriate and required fire safety design such as sprinkler systems, fire flow requirements, and all other necessary fire safety features. Fire protection and emergency services improvements would include one or more of the following: (1) constructing a new fire station with a structural pumper, an ambulance, and associated staffing, (2) establishing a temporary fire station with firefighting apparatus, an ambulance, and staffing, (3) staging firefighting equipment including an ambulance at SSTC-South, (4) roving firefighting equipment including an ambulance, and (5) obtaining a deviation approval of the DoD Fire and Emergency Services Program (DoD Instruction 6055.06). These improvements would be supplemented by continued mutual aid agreements. No significant fire services impact would result. *Solid Waste* Alternative 3 would be

Resource	No Action Alternative	Alternative 1 (Preferred Alternative)	Alternative 2	Alternative 3
		firefighting equipment including an ambulance at SSTC-South, (4) roving firefighting equipment including an ambulance, and (5) obtaining a deviation approval of the DoD Fire and Emergency Services Program (DoD Instruction 6055.06). These improvements would be supplemented by continued mutual aid agreements. No significant fire services impact would result. *Solid Waste* Alternative 1 would be compliant with EO 13514 and EO 13423 specific to waste diversion, and with the SSWP and Commander, Navy Region Southwest Instruction 11350.1B requirements regarding C&D debris. C&D debris would be diverted from the landfill waste stream to the extent feasible. Materials would either be recycled or reused through a variety of potential measures dependent on type and volume of material. No significant solid waste impact would result.	diversion, and with the SSWP and Commander, Navy Region Southwest Instruction 11350.1B requirements regarding C&D debris. C&D debris would be diverted from the landfill waste stream to the extent feasible. Materials would either be recycled or reused through a variety of potential measures dependent on type and volume of material. Methods could include a temporary on-site concrete batch plant and/or processing at an off-site industrial recycling facility. No significant solid waste impact would result. Mitigation Measures: None. Impact Avoidance and Minimization Measures: None.	compliant with EO 13514 and EO 13423 specific to waste diversion, and with the SSWP and Commander, Navy Region Southwest Instruction 11350.1B requirements regarding C&D debris. C&D debris would be diverted from the landfill waste stream to the extent feasible. Materials would either be recycled or reused through a variety of potential measures dependent on type and volume of material. No significant solid waste impact would result. Mitigation Measures: None. Impact Avoidance and Minimization Measures: None.

Resource	No Action Alternative	Alternative 1 (Preferred Alternative)	Alternative 2	Alternative 3
		Mitigation Measures: None. Impact Avoidance and Minimization Measures: None.		
3.13 Coastal Uses and Resources	Impacts: No effects on existing coastal resources; no changes to public access, views, or any coastal resources. Mitigation Measures: None. Impact Avoidance and Minimization Measures: None.	Impacts: Construction effects on water quality would be temporary and not significant. Alternative 1 would not change public access and therefore no impacts to public access would result. Alternative 1 would be visually compatible with the existing building heights (up to 45 feet tall), with the exception of a paraloft structure that could be up to 120 feet tall. Existing visual setting would change, but Alternative 1 would not obstruct any scenic public viewsheds. No significant visual impact would result. The Navy prepared a coastal consistency determination for the proposed NBC Coastal Campus and the California Coastal Commission concurred with the determination on	Impacts: Impacts would be similar to those for Alternative 1. No significant impacts to coastal uses or resources are anticipated with the implementation of Alternative 2. Mitigation Measures: None. Impact Avoidance and Minimization Measures: Implementation of the water quality measures specified in Section 5.5 and summarized in Alternative 1.	Impacts: Construction effects on water quality would be temporary and not significant. Alternative 3 would not change public access and therefore no impacts to public access would result. Alternative 3 would be visually compatible with the existing building heights (up to 45 feet tall), with the exception of a paraloft structure on the SSTC-South portion of the footprint that could be up to 120 feet tall. Existing visual setting would change, but Alternative 3 would not obstruct any scenic public viewsheds. No significant visual impact would result. No significant impacts to coastal uses or resources are anticipated with the implementation of Alternative 3. Mitigation Measures: None. Impact Avoidance and Minimization Measures:

Resource	No Action Alternative	Alternative 1 (Preferred Alternative)	Alternative 2	Alternative 3
		12 November 2014. No significant impacts to coastal uses or resources are anticipated with the implementation of Alternative 1. Mitigation Measures: None. Impact Avoidance and Minimization Measures: Implementation of the water quality measures specified in Section 5.5 and summarized below: • Implement project-specific SWPPP with BMPs relative to site-specific needs and conditions. • Include sustainable designs (i.e., LID, energy efficient design, and integrated layout).		Implementation of the water quality measures specified in Section 5.5 and summarized in Alternative 1.
3.14 Aesthetics	Impacts: No effect on aesthetics. Mitigation Measures: None. Impact Avoidance and Minimization Measures: None.	Impacts: Alternative 1 would modify viewsheds from SR-75, the Bayshore Bikeway, the Coronado Cays, and Silver Strand State Beach. It would create a more intense visual appearance, including increased nighttime lighting conditions, primarily from southbound SR-75	Impacts: Similar to Alternative 1, Alternative 2 would modify viewsheds from SR-75, the Bayshore Bikeway, the Coronado Cays, and Silver Strand State Beach. The Alternative 2 appearance would create a more intense visual appearance, including increased nighttime lighting conditions. Viewshed	Impacts: Similar to Alternative 1, Alternative 3 would modify viewsheds from SR-75, the Bayshore Bikeway, the Coronado Cays, and Silver Strand State Beach. The Alternative 3 appearance would create a more intense visual appearance, including increased nighttime lighting conditions. Viewshed

Resource	No Action Alternative	Alternative 1 (Preferred Alternative)	Alternative 2	Alternative 3
		approaching the north gated entry control point. Viewshed modifications are not anticipated to be perceived as substantial, dramatic, adverse, or controversial; no significant aesthetic impact would occur. Mitigation Measures: None. Impact Avoidance and Minimization Measures: Design of the buildings would complement the appearance of surrounding areas by including: • Context-sensitive architectural treatments; applied consistently throughout the development; • Low-reflectivity building materials in natural, earth-tone colors; • Shielding of permanent outdoor lighting installed at proposed facilities that limit light trespass and ambient light pollution to achieve dark-sky compliance to the extent possible. (Additional methods to reduce light pollution [e.g., dusk-to-dawn sensor activation,	modifications would be similar to Alterative 1 and the modifications are not anticipated to be perceived as substantial, dramatic, adverse, or controversial; no significant aesthetic impact would occur. Mitigation Measures: None. Impact Avoidance and Minimization Measures: Design of the buildings would complement the appearance of surrounding areas and include the same measures discussed under Alternative 1.	modifications would be similar to Alterative 1 and the modifications are not anticipated to be perceived as substantial, dramatic, adverse, or controversial; no significant aesthetic impact would occur. Modification to views at NAB Coronado and NASNI would be insubstantial as those base locations are currently characterized as nearly built out. Addition of one to two facilities at these locations would not be a change in character or perceptible to the average viewer, and no significant aesthetic impact would occur. Mitigation Measures: None. Impact Avoidance and Minimization Measures: Design of the buildings would complement the appearance of surrounding areas and include the same measures discussed under Alternative 1.

Resource	No Action Alternative	Alternative 1 (Preferred Alternative)	Alternative 2	Alternative 3
		low-lumen or limited-spectrum lighting] applied as possible; light poles and light placement at lowest height practical [considering security constraints]); and • Context- and water-sensitive landscape treatments, including visual buffers consisting of earthen berms, vegetated buffers, screening trees, and right-of-way landscape improvements along public-facing adjacencies; to be approved (by NBC NRO staff).		

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Table 2-6
Mitigation Identification and Implementation

Mitigation Measure	Benefit	Evaluation Criteria	Implementation	Responsible Command	Date Implemented
Cultural Resources					
Compliance with NHPA Section 106 under the NBC Programmatic Agreement, as implemented through the signed Memorandum of Agreement and the NBC ICRMP.	Reduce or mitigate for potential effects to archaeological and historic resources.	Minimization of potential impacts to cultural resources from demolition and construction.	Implementation of measures in the signed Memorandum of Agreement, ICRMP, and PA and consultation with SHPO, ACHP, Indian Tribes, and other parties.	Host or Tenant Command, as appropriate.	Prior to construction.
Traffic and Circulation					
Implement the following measures by 2024. • Modification of signal operations at Silver Strand Blvd (SR-75) & Tulagi Rd • Modification of eastbound approach configuration at Silver Strand Blvd (SR-75) & Rainbow Dr • Modification of northbound and southbound approach configurations at 9th St & Palm Ave (SR-75) • Removal of east leg pedestrian crossing at 13th St & Palm Ave (SR-75) • Addition of a second westbound left-turn lane at Saturn Blvd/19th St & Palm Ave (SR-75) • Modification of southbound approach configuration at 7th St & Palm Ave (SR-75)	Reduce intersection traffic congestion and delays.	The post-implementation level of service for the subject intersections.	Implementation of the mitigation measures prior to the threshold year of need, either 2024 or 2040.	Host or Tenant Command, as appropriate and Caltrans and the City of Imperial Beach.	Prior to 2024 and 2040.

Mitigation Measure	Benefit	Evaluation Criteria	Implementation	Responsible Command	Date Implemented
Implement the following measures by 2040. • Extend the southbound right-turn lanes at Palm Ave (SR-75) & I-5 SB Exit Ramp. • Restriction of left turns out of Fiddler's Cove Driveway and Silver Strand Blvd (SR-75).					

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CHAPTER 3.0
AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

3.1 LAND USE AND RECREATION

3.1.1 Affected Environment

3.1.1.1 Region of Influence

The Region of Influence (ROI) for land use and recreation for the Proposed Action consists of land uses inside the boundaries of SSTC-South, NAB Coronado, and NASNI; areas within 500 feet of these installations; and off-site improvement areas.

3.1.1.2 Plans and Policies

The SSTC-South site, used for military activities, is approximately 548 acres of relatively unimproved, federally owned land down to the high tide line. Approximately 95 acres of SSTC-South is outgranted by easement or permit to support various public utilities, the City of Coronado, the State of California, the County of San Diego, and the YMCA. NAB Coronado and NASNI are existing installations with active military facilities. As Federal land, the installations are excluded from local and state land use controls. The Navy has land use planning documents for its installations, including the Silver Strand Training Complex Shore Infrastructure Plan (U.S. Navy 2011d) and Naval Special Warfare West Coast Master Plan (Master Plan) (U.S. Navy 2009c). Adjoining lands and waters, however, are subject to local land use programs, policies, and plans. Each city (City of Imperial Beach and City of Coronado) plans its land use by preparing and adopting a state-required General Plan and a Local Coastal Plan (LCP) for property within the coastal zone. SDUPD adopted a master plan and LCP for the tidal and submerged lands outside of Federal jurisdiction in San Diego Bay.

Silver Strand Training Complex Shore Infrastructure Plan

The SSTC Shore Infrastructure Plan (U.S. Navy 2011d) captures the needs of NSW and provides support for funding future projects. It is also used in conjunction with the NBC Activity Overview Plan. The purpose of the infrastructure plan is to ensure the optimum supportability for NSW at SSTC and to provide the necessary operational resources to perform its mission (infrastructure/facilities, training, etc.). SSTC-South existing land uses are categorized by their mission element as mission critical, mission support, or quality of life. Because the mission is training intensive and because the land is limited, the majority of the complex is dominated by mission-critical land uses; mission support and quality of life land uses encompass a relatively small footprint.

Naval Special Warfare West Coast Master Plan

The Master Plan (U.S. Navy 2009c) examines existing conditions and situations for the NSW community throughout NBC areas, including SSTC-South, with a primary focus on NSW facilities at NAB Coronado and SSTC-South. The Master Plan also examines NSW assets and requirements at NBC, but does not

develop planning projects for these areas. Mission changes, facility requirements, and assets of NSW are the primary focus of the Master Plan.

The Master Plan includes these recommendations for SSTC-South:

> SSTC-South's land use goals include ensuring that NSW remains the primary user, and that various natural and man-made constraints do not further hinder the mission. NSW is currently the predominant user at SSTC-South, and [its] land use area is naturally consolidated by the installation's various constraints. Recommended actions for NSW commands at SSTC-South are:
>
> - Create Advanced Training Command enclave and
> - Establish NSW primacy of use.

City of Coronado General Plan

A portion of NASNI and all of NAB Coronado, SSTC-North, and SSTC-South are within the limits of the City of Coronado. The City's General Plan (City of Coronado 2013a) recognizes that these Federal lands are not under the City's land use jurisdiction, and designates them "Military Zone" or for environmental habitat preservation. These lands are also located in the Wildlife Preserve (Modifying Overlay) Zone and Scenic Highway (Overlay) Zone of the City's Land Use Plan. Land under the land use jurisdiction of Coronado lies between SSTC-North and SSTC-South. This area is designated for "Civic Use and Open Space" south of SSTC-North and by the residential and marina complex of Coronado Cays north of SSTC-South. Land use in Coronado Cays is regulated by the Coronado Cays Specific Plan and is so designated in the Land Use Element of the Coronado General Plan.

The areas adjacent to SSTC-South under the City of Coronado's land use jurisdiction are generally built out as the Coronado Cays residential area. This residential specific plan includes single-family homes, attached homes, and the Coronado Cays Park (recreational area). Consistent with the current developed use, the General Plan designates the area as the Coronado Cays Specific Plan; all land use designations are limited to various attached and detached residential densities.

City of Imperial Beach General Plan

The City of Imperial Beach is adjacent to SSTC-South on the south. The majority of uses adjoining SSTC-South are designated by the Imperial Beach General Plan as single-family residential land uses; however, the Imperial Beach Charter School West serving kindergarten and first grade is also on the SSTC-South border (City of Imperial Beach 2010). On the far eastern part of the SSTC-South border, with an approximate 1,400-foot frontage on the SSTC-South boundary is an area designated "Urban Reserve." In the Imperial Beach General Plan, "Urban Reserve" indicates land that "is currently vacant or may be recycled to another use in the future." The Imperial Beach General Plan indicates that any future development of Urban Reserve lands would be under a specific plan to determine the land uses. The proposed traffic, access, and utility improvements within the Cities of Imperial Beach and San Diego would occur within roadway corridors in commercial and residential use areas.

3.1.1.3 Coastal Zone Management Act

Through the Coastal Zone Management Act of 1972, as amended (CZMA), coastal states are provided the authority to evaluate projects conducted, funded, or permitted by the Federal government. In compliance with the CZMA, any Federal project or activity affecting the coastal zone must be consistent, to the maximum extent practicable, with the provisions of federally approved state coastal plans. The California Coastal Commission (CCC) developed the California Coastal Management Program (CCMP) pursuant to the requirements of the CZMA. The CCC is responsible for reviewing proposed Federal and federally authorized activities affecting the state's coastal resources to assess the activities' consistency with the federally approved CCMP.

Excluded from any coastal zone are lands that are, by law, subject solely to the discretion of the Federal government or that are held in trust by the Federal government (16 U.S.C. 1453). This project is located on property that is under the exclusive control of the Navy and is not open to the public. However, although SSTC-South land is Federal government property, and therefore excluded from the coastal zone, the Navy nonetheless conducted an effects analysis as part of its determination of the Proposed Action's effects for purposes of Federal consistency review in compliance with the CZMA. This was done to factually determine whether the Proposed Action (even if conducted entirely within a Federal enclave) would affect any coastal use or resource. For all activities affecting coastal uses or resources, preparation of a Coastal Consistency Determination (CCD) or Coastal Consistency Negative Determination (CCND) is required. The CCC concurred with the Navy's NBC Coastal Campus coastal consistency determination on 12 November 2014 (Appendix E). The adopted findings of the consistency determination are also included in Appendix E.

3.1.1.4 Regional Land Use

The California Legislature has conveyed and granted in trust tidelands of San Diego Bay to SDUPD. SDUPD has jurisdiction over all non-Federal tidelands and submerged lands in the bay. Planning policies of SDUPD are expressed in the Port Master Plan for the physical development of the tidal and submerged lands (SDUPD 2010). Parts of NBC are within SDUPD's planning jurisdiction, and the Navy coordinates its activities in these areas with SDUPD. However, SDUPD has no regulatory authority over land owned by the Federal government. Figure 3.1-1 provides a regional land use overview.

3.1.1.5 Existing Land Use at SSTC-South

SSTC-South is divided into three distinct districts: SSTC-South Operational and Support Area, YMCA Camp Surf, and SR-75 and Ecological Preserve area. These areas were once used to operate the facilities and systems necessary to provide communications support to the Navy and Defense Communications System. Formerly known as the Naval Radio Receiving Facility, SSTC-South is the site of the Wullenweber Antenna Array (U.S. Navy 2011e). The majority of land on SSTC-South was operationally constrained and restricted from public use due to activities associated with the antenna; however, the antenna is no longer in use. Land uses on SSTC-South include supply/storage functions; military training; limited military recreation facilities, including an athletic field and picnic facilities; and four former military family housing units along the southern boundary that are now used for administrative purposes.

3.1.1.6 Existing Land Use at NAB Coronado Alternative 3 Site

NAB Coronado serves as the base of operations for Commander, Naval Special Warfare Command, NSWCEN, and NSWG-1. SBT-12, and NSWG-11 also occupy facilities at SSTC-North. SSTC-North is the core basic, special, and expeditionary warfare training and operations on the west coast. Much of this land is used to support NSW, including the area of the proposed Alternative 3 development.

3.1.1.7 Existing Land Use at NASNI Alternative 3 Site

NASNI is the largest naval aviation complex on the west coast, and the largest aerospace civilian employer in the San Diego area. It hosts Commander Naval Air Force, U.S. Pacific Fleet, Commander Carrier Group One, Commander Carrier Group Seven, Cruiser-Destroyer Group One, Cruiser-Destroyer Group Five, and two nuclear aircraft carriers (and can support a third nuclear aircraft carrier). The majority of current land use at NASNI is in the form of developed areas and structures. Much of this land is used to support air operations, including the area of the proposed Alternative 3 development.

3.1.1.8 Recreation and Access

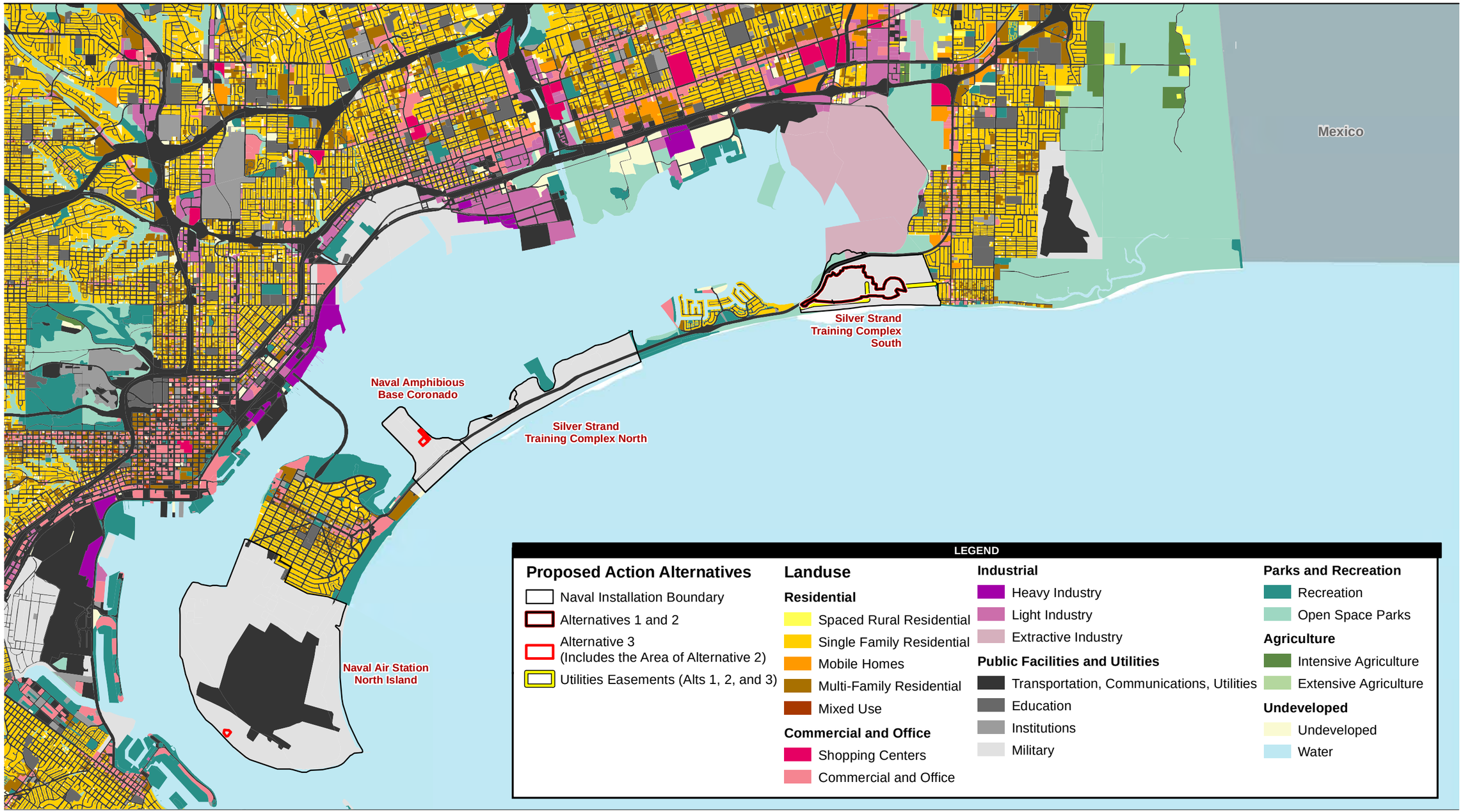
San Diego Bay sees frequent and extensive use for boating and fishing, conducted from surrounding marinas, piers, and mooring areas. Several yacht clubs are headquartered in San Diego Bay, in addition to a large number of public and private marinas. Formal sailboat regattas and informal racing are conducted throughout San Diego Bay and in the ocean year-round.

The ocean shore between SSTC-North and SSTC-South is the site of Silver Strand State Beach, a popular resource for beachgoers. Silver Strand State Beach has 2.5 miles of ocean frontage and 0.5 mile of frontage on San Diego Bay. Park facilities include four large parking lots that can accommodate up to 1,000 vehicles, restrooms and cold showers, and fire rings. To the south of the parking areas is the Silver Strand Natural Preserve, a 1.5-mile stretch of preservation land. Actions within the preserve are limited (no motor vehicles, motorboats, or aircraft are allowed).

The Bayshore Bikeway (San Diego Bay Bike Route) is a 24-mile bike trail. It runs from the Broadway and Harbor Drive intersection, loops around the southern end of San Diego Bay, and heads up Silver Strand State Beach through Coronado to the Coronado Ferry Landing. Numerous access points for cyclists are located along the route.

Coronado Cays is located between SSTC-South and SSTC-North and includes a marina for pleasure boaters. Glorietta Bay is adjacent to the northern bayside at SSTC-North, with Glorietta Bay Park in the City of Coronado on the northwest border of SSTC-North. On the shore of Glorietta Bay across from SSTC-North is the Coronado Golf Course.

Fiddler's Cove recreational marina and recreational vehicle (RV) campground, operated by the Navy, is located on the bayside just south of SSTC-North. The marina has approximately 150 moorings and approximately 130 dock slips; the RV park offers year-round camping. Both facilities are open to active duty, retirees, DoD civilians, and sponsored civilian guests. Gator Beach is a recreational beach used by military personnel and their families and is not open to the public. This beach is located on the northernmost oceanside portion of SSTC-North.



Source: ESRI 2012; CALH2O 2011; AerialExpress 2011

6,000 3,000 0 6,000 Feet

Scale: 1:72,000; 1 inch = 6,000 feet

Figure 3.1-1
Regional Land Use Map

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YMCA Camp Surf is on 45 acres at the southwest corner of SSTC-South on land leased from the Navy, including a portion of the oceanside beach. The camp is operated from mid-March to early November, and services an average of 9,000 youth and adults annually. The camp includes nine cabins, five platform tents, and other tent set-up areas that can accommodate up to 252 bunks. There is also a beach camping area that can accommodate up to 250 people.

Coronado Municipal Beach is adjacent to SSTC-North. Facilities include the main lifeguard tower and restroom facilities near the intersection of Ocean Boulevard and Isabella Avenue, and the portable lifeguard towers. These facilities are open to the public and are accessible through the City of Coronado. The Coronado Club Room and Boathouse, located on Glorietta Bay across SR-75 from the Hotel del Coronado, provides non-motorized watercraft activities.

In Imperial Beach, the city maintains the beachfront from the border with SSTC-South to the southern city limit at the Tijuana Slough National Wildlife Refuge. The beach is open to access by the public.

3.1.2 Environmental Consequences

3.1.2.1 Approach to Analysis

The analysis of land use consequences of any of the Proposed Action alternatives centers on the adverse effects that the proposed support facilities may have on existing or known future land uses in the vicinity, or the extent to which existing uses may be incompatible with the proposed uses.

3.1.2.2 No Action Alternative

Impacts

Under the No Action Alternative, no changes in current land use would occur, and there would be no adverse environmental consequences at SSTC-South. Continued use of existing facilities would have land use impacts due to the lack of adequate, consolidated logistical, operational, training, and administrative support space to meet NSWC's current and future training requirements. The space limitations at NAB Coronado, in particular, impede the uses of NSW and other tenants.

Mitigation Measures and Impact Avoidance and Minimization Measures

No mitigation measures or impact avoidance and minimization measures are proposed.

3.1.2.3 Alternative 1 – SSTC-South Bunker Demolition Alternative (Preferred Alternative)

Impacts

Under this and the other alternatives, the change in land use would be confined to the construction and operation of training, operation facilities, logistics support, and headquarters facilities only. Proposed facilities (24 MILCONs) would be limited to the 166.85-acre Alternative 1 footprint on SSTC-South. Proposed facilities would not be incompatible with the physical environment of the site, which consists predominantly of other existing training facilities. With the exception of the paraloft at 120 feet tall and potentially several rooftop communication antennas, all other proposed buildings would be limited in

height to 45 feet consistent with the maximum height of existing on-site structures. The proposed facilities would include land uses and facilities similar to the existing condition with an intensification of land use. The proposed uses would be compatible with existing uses on SSTC-South and with Navy planning documents, and would not adversely affect adjoining, existing land uses within the ROI either on or off the installation. The Coastal Campus design and layout would be compatible with the Anti-Terrorism/Force Protection (AT/FP) standoff distances.

All off-site improvements (traffic and access and utility) would occur within infrastructure (roadways and utility) rights-of-way and corridors. These improvements would not have a significant land use impact.

Recreational facilities in the area include Silver Strand State Beach to the north, Coronado Cays Park (part of the City of Coronado) to the north, Silver Strand Natural Preserve to the north, Fiddler's Cove recreational marina, a USFWS-managed National Wildlife Refuge to the east, Bayshore Bikeway to the east, and public beach areas to the south in the City of Imperial Beach. Development of new facilities within SSTC-South would not alter the availability, access to, or functions of these recreational areas including operation of and access to YMCA Camp Surf. Public access to all recreational areas would be maintained and no changes to the direct recreational or adjoining land uses are proposed. The Navy prepared a coastal consistency determination for the proposed NBC Coastal Campus and the CCC concurred with the determination on 12 November 2014. Therefore, Alternative 1 would not have a significant recreational or public access impact.

Mitigation Measures and Impact Avoidance and Minimization Measures

No mitigation measures or impact avoidance and minimization measures are proposed.

3.1.2.4 Alternative 2 – SSTC-South Bunker Retention Alternative

Impacts

Alternative 2 would construct the same facilities (24 MILCONs) as Alternative 1 but would not include the demolition of Building 99. As explained under Alternative 1, with the exception of the paraloft at 120 feet tall and potentially several rooftop communication antennas, all other proposed buildings would be limited in height to 45 feet consistent with the maximum height of existing on-site structures. While it would expand the developed area and the density of SSTC-South, it would not introduce uses or facilities markedly different from the existing ones on the northern part of SSTC-South. It would be compatible with existing uses on SSTC-South, and would not have a significant land use impact on adjoining, existing land uses within the ROI, either on or off the installation. The Coastal Campus design and layout would be compatible with the AT/FP standoff distances and height restrictions would be the same as for Alternative 1.

All off-site improvements (traffic and access and utility) would be the same as for Alternative 1 and would occur within infrastructure (roadways and utility) rights-of-way and corridors. These improvements would not have a significant land use impact.

Similar to Alternative 1, facilities proposed for Alternative 2 would not alter the availability, access to, or functions of the recreational facilities (Silver Strand State Beach, Coronado Cays Park, Bayshore Bikeway, Silver Strand Natural Preserve, Fiddler's Cove recreational marina, a USFWS-managed

National Wildlife Refuge, public beach) in the area. Public access to all recreational areas would be maintained and no changes to the direct recreational or adjoining land uses are proposed. Therefore, Alternative 2 would not have a significant recreational or public access impact.

Mitigation Measures and Impact Avoidance and Minimization Measures

No mitigation measures or impact avoidance and minimization measures are proposed.

3.1.2.5 Alternative 3 – Multi-Installation Alternative

Impacts

Alternative 3 would construct the same 24 facilities as Alternative 1; however, the components would be located on three separate Navy installations: NAB Coronado, NASNI, and SSTC-South. The majority of the facilities, 21 of 24 facilities, would be located at SSTC-South, and the SSTC-South portion of the Alternative 3 footprint would be the same as that of Alternative 1. As explained under Alternative 1, with the exception of the paraloft at 120 feet tall and potentially several rooftop communication antennas, all other proposed buildings would be limited in height to 45 feet consistent with the maximum height of existing on-site structures. Facilities would be compatible with existing uses on SSTC-South, and would not have a significant land use impact on adjoining, existing land uses within the ROI, either on or off the installation. The four facilities proposed for NAB Coronado (P-904, P-912, and P-965) and NASNI (portion of P-870) would be developed in the footprints of existing buildings, consistent with the existing land use and character of those installations. Development of these four facilities would not have a significant land use impact on existing adjoining land uses within the ROI either on or off the installations.

The Coastal Campus design and layout would be compatible with the AT/FP standoff distances and height restrictions would be the same as for Alternative 1. All off-site improvements (traffic and access and utility) would be the same as for Alternative 1 and would occur within infrastructure (roadways and utility) rights-of-way and corridors. These improvements would not have a significant land use impact. Similar to Alternatives 1 and 2, Alternative 3 would not have a significant recreational or public access impact.

Mitigation Measures and Impact Avoidance and Minimization Measures

No mitigation measures or impact avoidance and minimization measures are proposed.

3.1.3 Unavoidable Adverse Environmental Effects

No unavoidable adverse effects on land use would occur as a result of implementation of any of the alternatives.

3.1.4 Summary of Effects

Table 3.1-1 summarizes the effects of the No Action Alternative and the three action alternatives on land use.

Table 3.1-1
Summary of Land Use and Recreation Effects

Alternative	Effects	Mitigation Measures/Impact Avoidance and Minimization Measures
No Action Alternative	No effects on existing land uses; no incompatibility with existing land uses.	Mitigation Measures: None Impact Avoidance and Minimization Measures: None
Alternative 1 – SSTC-South Bunker Demolition Alternative (Preferred Alternative)	Alternative 1 would expand the density and area of developed uses on SSTC-South but would not introduce incompatible land uses or be incompatible with existing land uses. Land use effects would not be significant. All off-site improvements (traffic and access and utility) would occur within infrastructure (roadways and utility) rights-of-way and corridors and would not have a significant land use impact. No recreational facilities on or off the installation would be affected and no significant recreational impacts would occur.	Mitigation Measures: None Impact Avoidance and Minimization Measures: None
Alternative 2 – SSTC-South Bunker Retention Alternative	Alternative 2, similar to Alternative 1, would expand the density and area of developed uses on SSTC-South but would not introduce incompatible land uses or be incompatible with existing land uses. Land use effects would not be significant. All off-site improvements (traffic and access and utility) would occur within infrastructure (roadways and utility) rights-of-way and corridors and would not have a significant land use impact. No recreational facilities on or off the installation would be affected and no significant recreational impacts would occur.	Mitigation Measures: None Impact Avoidance and Minimization Measures: None
Alternative 3 – Multi-Installation Alternative	Alternative 3, similar to Alternative 2, would expand the density and area of developed uses on SSTC-South but would not introduce incompatible land uses or be incompatible with existing land uses. The proposed facilities at NAB Coronado (P-904, P-912, and P-965) and NASNI (portion of P-870) would be developed in the footprints of existing buildings,	Mitigation Measures: None Impact Avoidance and Minimization Measures: None

Alternative	Effects	Mitigation Measures/Impact Avoidance and Minimization Measures
	consistent with the existing land use. Land use effects would not be significant. All off-site improvements (traffic and access and utility) would occur within infrastructure (roadways and utility) rights-of-way and corridors and would not have a significant land use impact. No recreational facilities on or off the installation would be affected and no significant recreational impacts would occur.	

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3.2 GEOLOGY AND SOILS

3.2.1 Affected Environment

3.2.1.1 Region of Influence

For the action alternatives, the geology and soils ROI would be confined to SSTC-South and portions of NAB Coronado and NASNI, within which the proposed MILCONS would be constructed, and those limited areas off-site where traffic and access and utility improvements would occur. Only within these areas would soil and geologic disturbance occur under the action alternatives. Regional seismic activity could affect the proposed facilities, but the effects would occur on-site; the Proposed Action alternatives would not affect or influence seismic conditions in the region.

3.2.1.2 Topography

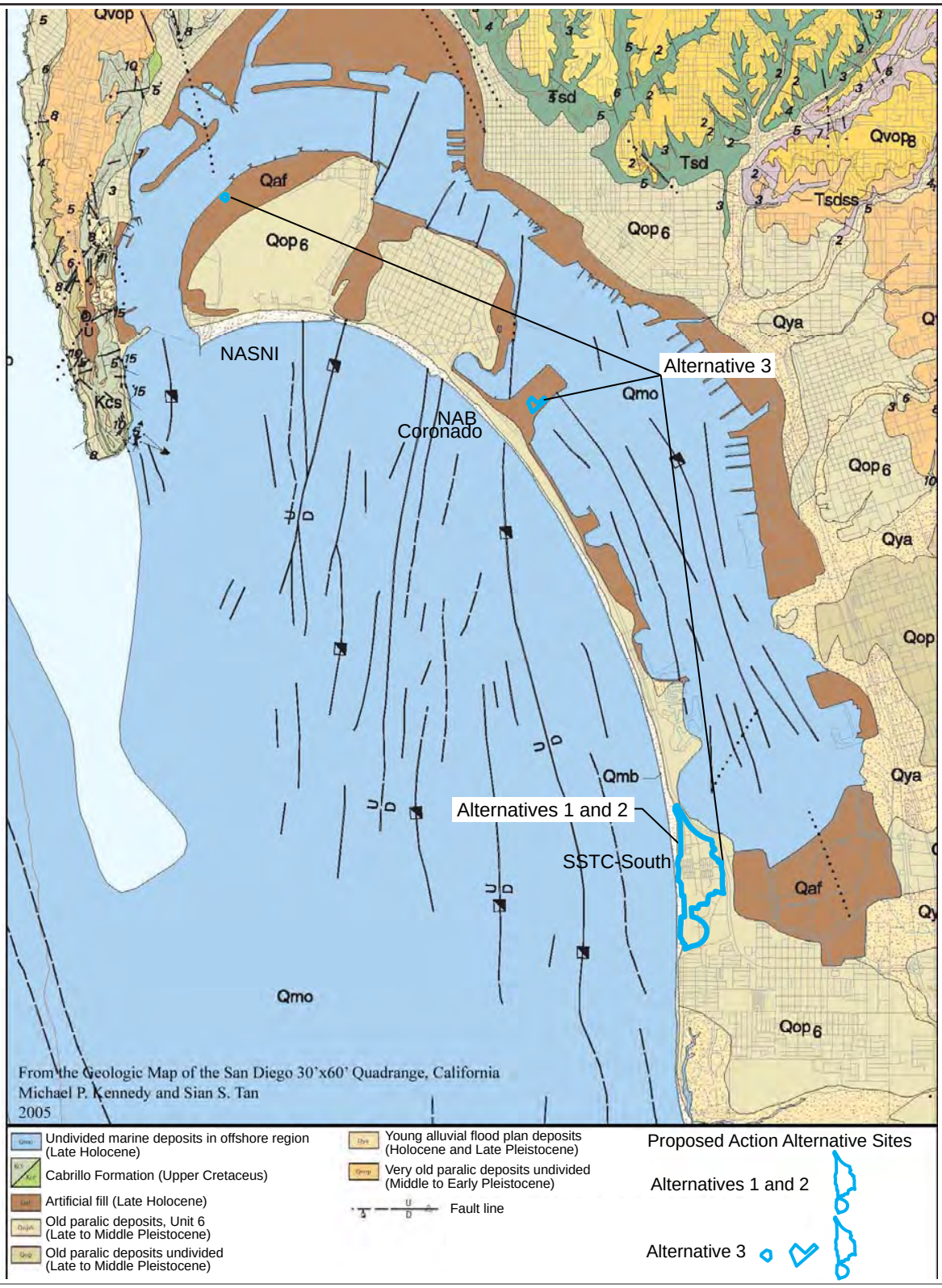
The Silver Strand peninsula, which lies between the Pacific Ocean and San Diego Bay, is generally level with the average elevation about 10 feet above mean sea level and with slopes less than 5 percent. SSTC-South is within the low-lying, relatively level coastal area west and south of San Diego Bay. This area is near sea level and is devoid of noticeable relief, with slopes of less than 9 percent. Excluding the beaches, the elevation range on SSTC-South is 10 (southern portion) to 40 feet (northern portion) above mean sea level. The areas proposed for Alternative 3 on NAB Coronado and NASNI are previously developed areas that are flat and range between 10 and 20 feet above mean sea level.

3.2.1.3 Geology

Figure 3.2-1 is a map of geologic features of the San Diego Bay area (USGS 2005). SSTC-South is underlain by the Quaternary-aged Bay Point Formation, which is composed of marine, lagoonal, and nonmarine poorly consolidated, fine- and medium-grained, pale brown, fossiliferous sandstone. The Bay Point Formation is considered to be old paralic deposits of late to middle Pleistocene age. Holocene and late Pleistocene old paralic deposits (Qop_6) are found on-site. (Paralic deposits are laid down on the landward side of a coast.) On the oceanside, sandy beaches (Qmb) adjoin SSTC-South. All of NAB Coronado and the portion of NASNI proposed for development of Alternative 3 are composed of artificial fill (Qaf) from the late Holocene period.

3.2.1.4 Soils

Table 3.2-1 and Figure 3.2-2 show the type and location of soils on SSTC-South, NAB Coronado, and NASNI (USDA 1973).



Not to Scale

Figure 3.2-1
Geologic Features

Source: ICF 2012; ESRI; CPEN; AECOM 2012; SSURGO 2007

Figure 3.2-2
Soils

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Table 3.2-1
Soils on Proposed Action Alternative Sites

Proposed Action Alternative Sites	Soil Type	Soil Characteristics
SSTC-South	Coastal Beaches (Cr)	Low shrink-swell potential; severe erodibility potential; partially, regularly covered by water; no vegetation
SSTC-South	Huerhuero Loam (HrC)	Very fine grain with high shrink-swell potential, 2 to 9 percent slope, 0.6 to 2.0 permeability (inches per hour), depth of more than 5 feet, severe erodibility potential
SSTC-South, NASNI	Marina Loamy Coarse Sand (MlC)	Medium grain with low shrink-swell potential, 2 to 9 percent slope, 0.6 to 20.0 permeability (inches per hour), depth of greater than 5 feet, severe erodibility potential
NAB Coronado	Made Lands (Md)	Variable depending on source of fill materials

3.2.1.5 Geologic Hazards

Seismicity

The California Geological Survey classifies faults as either active or potentially active, according to the Alquist-Priolo Special Studies Zone Act of 1972. The California Geological Survey defines an active fault as a fault that has exhibited surface displacement within the Holocene Epoch (the last 11,000 years). A fault that has exhibited surface displacement during the Pleistocene Epoch (which began about 1.6 million years ago and ended about 11,000 years ago) is defined as potentially active. Earthquake magnitude is measured according to the Richter scale.

The project site lies in coastal San Diego County, which is an active seismic region. Major active or potentially active faults in the San Diego area are the San Jacinto Fault, located approximately 66 miles east of NBC; Elsinore Fault, approximately 44 miles east of NBC; La Nacion Fault, approximately 7 miles east of NBC; and Rose Canyon Fault, which crosses NASNI. Offshore faults include the Coronado Bank Fault and San Clemente Fault, located approximately 12 and 41 miles west, respectively, in the Pacific Ocean.

There is also a north-trending pattern of secondary faults, including (from north to south) the Spanish Bight, Coronado, and Silver Strand Faults. These secondary faults are considered splays of the Rose Canyon Fault. Rose Canyon Fault is considered active by the California Department of Mines and Geology and could produce a maximum credible earthquake of 7.0 on the Richter Scale. Figure 3.2-1 shows local faulting in the San Diego Bay area.

Liquefaction

Liquefaction could result from a large earthquake generated on a major regional or locally active fault. Liquefaction is defined as the transformation of soils from a solid to a liquid during ground shaking, thus amplifying destructive effects. Liquefaction generally requires loose, unconsolidated silts or sands at or near the groundwater table. Liquefaction can result in differential settlement of structures, damaged foundations, and downed utility lines. Based on the soil types found, the risk of seismically induced liquefaction on SSTC-South is high (RORE 2013a).

Tsunami

The threat of flooding by tsunami is a potential hazard because of the proximity of the sites to the ocean. Tsunamis are long, shallow, high-velocity ocean waves that are typically generated by seismic activity. Historically, the highest recorded tsunami in San Diego County was 4.6 feet, following the 1960 Chilean earthquake (U.S. Navy 1992). An earthquake along the San Clemente Fault, which shows evidence of vertical separation parallel to the coastline, could generate a tsunami along the California coast (Inman and Nordstrom 1973). Tsunamis could also be triggered by seismic activity on the subduction zones of the Pacific Rim. Associated currents could be strong enough to damage structures along the coastline. Figure 3.2-3 shows the tsunami inundation areas for San Diego Bay. The elevated northern portion of the SSTC-South site is outside the tsunami inundation area; however, the southern (lower elevation) areas are within the inundation area (California Emergency Management Agency 2009). All of NAB Coronado and the coastal areas of NASNI are also within the inundation areas. The portion of NASNI proposed for Alternative 3 development is outside the coastal areas and is not within the tsunami inundation area.

Seiche

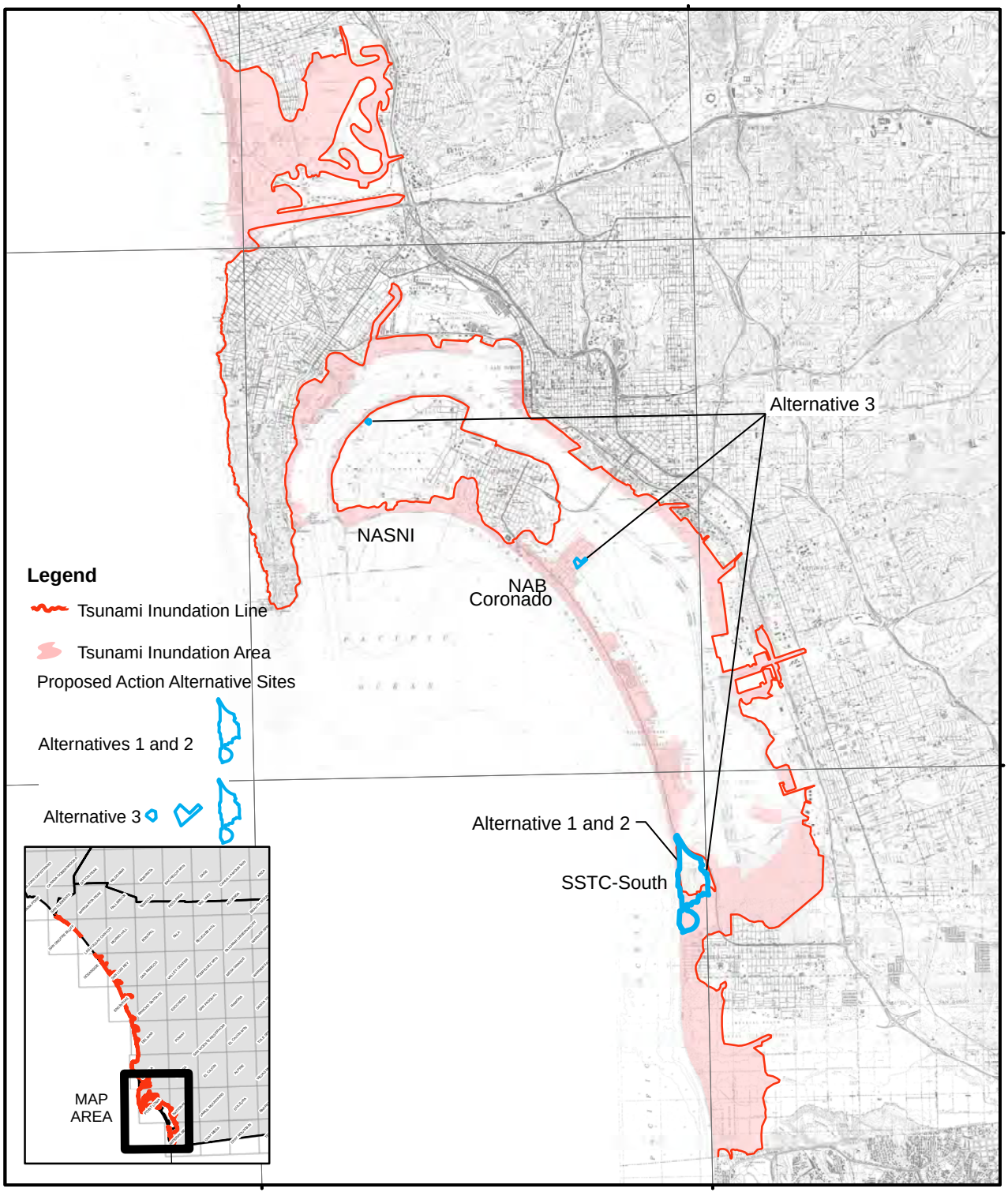
Seiches are surges of water in confined water bodies, such as reservoirs or bays. They can be caused by ground shaking during an earthquake. Such events may inundate shorelines and possibly cause some flooding. A review of relevant literature indicates that San Diego Bay is not prone to seiches.

Landslides

Landslides typically occur on steep slopes in soils with high shrink-swell characteristics, such as clay. Because the proposed sites are relatively flat with no major slopes, landslides are not a potential hazard.

3.2.2 Environmental Consequences

This resource section focuses on accelerated soil erosion or loss of sediments. Soil erosion is a natural process occurring on all land. Erosion processes include sheet and rill erosion, gullying, and wind erosion. Accelerated soil erosion is defined as a net loss of soil due to land use. Types of activities that could affect soils and sediments include substantial soil or sediment displacement involved with construction activities. Geologic hazards, such as earthquakes, liquefaction, and tsunamis would affect all MILCON development if the event reaches sufficient magnitude.



Not to Scale

Figure 3.2-3
Tsunami Inundation Map

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3.2.2.1 Approach to Analysis

This section focuses on the geological conditions that would affect, or be affected by, construction of the proposed NBC Coastal Campus. Because the project would be a design/build project, the specific location and characteristics of the structures will not be known in detail until after award of the construction contract(s). Therefore, this section identifies general site considerations and the statutes and regulations for avoiding or counteracting those considerations.

3.2.2.2 No Action Alternative

Impacts

The No Action Alternative would not change current conditions on SSTC-South, NAB Coronado, or NASNI. Geologic and soil conditions at each site would remain as they currently are, as would geologic hazards such as seismic ground shaking, liquefaction, and tsunami risk.

Mitigation Measures/Impact Avoidance and Minimization Measures

No mitigation measures or impact avoidance and minimization measures are proposed.

3.2.2.3 Alternative 1 – SSTC-South Bunker Demolition Alternative (Preferred Alternative)

Impacts

Topography

Alternative 1 would demolish Building 99 and remove all or a portion of the debris materials from the site. Some of the concrete and steel may be reused for the construction of the proposed Coastal Campus. Building 99 is approximately 45 feet tall and over 700 feet long. Approximately 49,900 cubic yards of materials (concrete, steel, and debris) would be removed or reused. The site would be leveled and prepared for construction of the Coastal Campus. Removal of Building 99 would change the central portion of the SSTC-South landform. Construction of the proposed MILCONs would be accomplished without substantial changes to the existing landform. The terrain at SSTC-South is relatively level, with no high or depressed areas that would be changed by grading. Changes in topography would be relatively minor involving construction site leveling and would not be significant.

Geology and Soils

SSTC-South possesses highly erodible soils and, in the southeast, Huerhuero soil with a high shrink/swell potential. Demolition of Building 99, other existing structures, and new construction on the site would require geotechnical engineering measures designed to cope with these conditions. Such engineering measures would be identified and implemented in the demolition, design, and build phases.

Building 99 includes approximately 49,900 cubic yards of concrete and steel, with a 17-foot-thick armored roof. The demolition would involve the use of explosives, saws, and heavy equipment to break the structure down and then grind the demolition materials on-site for reuse or to be hauled away. Demolition of Building 99 and other existing structures on SSTC-South would be completed in compliance with a

detailed demolition plan, including a geotechnical analysis. Construction would be completed in compliance with the geotechnical recommendations incorporated into project design and a project-specific National Pollutant Discharge Elimination System (NPDES) General Construction Permit. As part of the permit, a Storm Water Pollution Prevention Plan (SWPPP) would incorporate measures as recommended in the standard, site-specific geotechnical report for the proposed demolition and construction. Both temporary and permanent erosion and sediment controls would be employed in accordance with the SWPPP, and designed specifically for the demolition and construction sites, including off-site traffic, access, and utility improvements. Disturbed areas would be revegetated or repaved as appropriate. Once implemented, these control measures would be monitored and maintained to ensure their effectiveness. With successful implementation of best management practices (BMPs), compliance with established plans and policies, and incorporation of standard erosion-control measures into project design, no significant soils impacts would occur during demolition and construction.

After completion of construction, Alternative 1 would incorporate standard erosion-control measures to minimize potential erosion from the sites during postconstruction use and maintenance. These erosion-control measures and sediment-control actions (e.g., planting native vegetation, installing appropriately sized storm water drainage infrastructure) would be designed and implemented on a site-specific basis to minimize erosion potential. As a result of continued compliance with established plans and policies, and continued implementation of erosion-control measures, implementation of Alternative 1 would not have a significant impact on geology and soils.

Geological Hazards

Seismicity

Active faults within 60 miles of SSTC-South could result in strong seismically induced ground motion and associated ground shaking. All new structures included as part of Alternative 1 would be designed and constructed to comply with the seismic design criteria identified in the Uniform Building Code, the Naval Facilities Engineering Command (NAVFAC) P-355 Seismic Design Manual, and the criteria identified in the latest design specifications of the Structural Engineering Association of California. Geotechnical studies would be conducted for the Coastal Campus overall and/or for all MILCON construction sites during project design, and all structures would be built pursuant to the applicable engineering requirements, including seismic safety standards and earthquake protection, and would follow the recommendations set forth in the geotechnical evaluation. Therefore, potential adverse effects from seismic ground shaking associated with this alternative would be avoided or minimized to the extent consistent with current engineering practice. Implementation of Alternative 1 would not have a significant impact to geology and soils.

Liquefaction

SSTC-South, with its surficial deposits of sandy soil, is highly susceptible to liquefaction and settlement from ground shaking during an earthquake. The potential for liquefaction at building sites and off-site roadway and utility improvement areas would be taken into account in the geotechnical investigations preceding design and construction of the MILCON structures, as stated under “Seismicity,” above. Appropriate foundation and footing technology would be employed to avoid or minimize the effects of liquefaction on new building construction. Therefore, implementation of Alternative 1 would not have a significant impact to liquefaction.

Tsunami

As identified on the Tsunami Inundation Map (Figure 3.2-3), Alternative 1 development would occur mostly outside the tsunami inundation area (California Emergency Management Agency 2009). However, all structures in low-lying areas adjacent to the Pacific coast could be subject to damage from tsunami. The proposed buildings would be designed to the latest seismic safety standards and in keeping with the latest engineering practices. While these features may minimize risk from damage due to a tsunami, no features or combination of features could render the proposed buildings or any others fully immune to damage by tsunami. Therefore, implementation of Alternative 1 would not have a significant impact from tsunamis.

Seiche

The only partially enclosed body of water near SSTC-South is San Diego Bay, which is not susceptible to seiche. Risk of seiche damaging the proposed MILCON structures is not significant.

Landslides

No slopes of more than 9 percent are present on SSTC-South. There is no significant risk of landslides affecting Alternative 1.

Mitigation Measures/Impact Avoidance and Minimization Measures

Mitigation Measures

No mitigation measures are proposed.

Impact Avoidance and Minimization Measures

The following measures are proposed to avoid and minimize potential impacts to geology and soils:

- Comply with the seismic design criteria identified in the Uniform Building Code, the NAVFAC P-355 Seismic Design Manual, and the criteria identified in the latest design specifications of the Structural Engineering Association of California.
- Conduct geotechnical studies for the Coastal Campus as a whole or for all MILCON construction sites during project design. These studies would include the demolition of Building 99 to minimize or prevent soil erosion and geologic hazard risks and would focus on reuse of the demolition materials in the construction of the NBC Coastal Campus.
- Implement erosion control measures during and after construction.
- Prepare a project-specific NPDES General Construction Permit and a SWPPP.

3.2.2.4 Alternative 2 – SSTC-South Bunker Retention Alternative

Impacts

Alternative 2 – SSTC-South Bunker Retention Alternative would include the same MILCONs as Alternative 1 and would be located within the same footprint as Alternative 1. Alternative 2 would not involve the demolition of Building 99. While the location of some structures on SSTC-South and details of design of structures and utilities could be different from Alternative 1, the effects of the action on geological conditions, and the effects of potential geological constraints and risks on Alternative 1, would essentially be the same for Alternative 2. Implementation of Alternative 2, with the employment of appropriate engineering design and construction standards and requirements, would not have a significant impact to geology and soils.

Mitigation Measures/Impact Avoidance and Minimization Measures

Mitigation Measures

No mitigation measures are proposed.

Impact Avoidance and Minimization Measures

The following measures are proposed to avoid and minimize potential impacts to geology and soils:

- Comply with the seismic design criteria identified in the Uniform Building Code, the NAVFAC P-355 Seismic Design Manual, and the criteria identified in the latest design specifications of the Structural Engineering Association of California.
- Conduct geotechnical studies for the Coastal Campus as a whole or for all MILCON construction sites during project design.
- Implement erosion control measures during and after construction.
- Prepare a project-specific NPDES General Construction Permit and a SWPPP.

3.2.2.5 Alternative 3 – Multi-Installation Alternative

Impacts

Alternative 3 – Multi-Installation Alternative would include the same 24 MILCONs as Alternative 1; however, three of the MILCONs and a portion of a fourth would be constructed on other installations (i.e., NAB Coronado and NASNI). MILCON P-904, P-912, and P-965 would be constructed on NAB Coronado and a portion of P-870 would be constructed on NASNI. All other MILCONs would be constructed generally within the same SSTC-South footprint as Alternative 1.

While the location of some structures on SSTC-South and details of design of structures and utilities could be different from Alternative 1, the effects of the action on geological conditions, and the effects of potential geological constraints and risks on Alternative 1, would essentially be the same for Alternative 3.

The construction of the MILCONs on NAB Coronado and NASNI would occur on already developed areas that are flat. The effects of this construction on geological conditions, and the effects of potential geological constraints and risks on Alternative 3, would essentially be the same as discussed for Alternatives 1 and 2.

With regard to Building 99, Alternative 3 would include retention of Building 99 similar to Alternative 2. The geology and soils impacts of retention of Building 99 are discussed in Section 3.2.2.4 above.

Implementation of Alternative 3, with the employment of appropriate engineering design and construction standards and requirements, would not have a significant impact to geology and soils.

Mitigation Measures/Impact Avoidance and Minimization Measures

Mitigation Measures

No mitigation measures are proposed.

Impact Avoidance and Minimization Measures

- The impact avoidance and minimization measures for Alternative 3 would be the same as those addressed above for Alternative 2.

3.2.3 Unavoidable Adverse Environmental Effects

No unavoidable adverse effects on geology and soils would occur as a result of implementation of any of the alternatives.

3.2.4 Summary of Effects

Table 3.2-2 summarizes the effects of the No Action Alternative and the three action alternatives.

Table 3.2-2
Summary of Geology and Soils Effects

Alternative	Effects	Mitigation Measures/Impact Avoidance and Minimization Measures
No Action Alternative	No effects on geology and soils; no effect from geological hazards.	Mitigation Measures: None Impact Avoidance and Minimization Measures**:** None
Alternative 1 – SSTC-South Bunker Demolition Alternative (Preferred Alternative)	Changes in topography would be relatively minor involving construction site leveling. SSTC-South possesses highly erodible soils. Strong seismically induced ground motion and associated ground shaking could occur. Adverse effects attributable to	Mitigation Measures: None Impact Avoidance and Minimization Measures**:** • Prepare a detailed demolition plan for Building 99 to minimize or prevent soil

Alternative	Effects	Mitigation Measures/Impact Avoidance and Minimization Measures
	liquefaction and settlement are considered minor. Alternative 1 development would mostly occur outside the tsunami inundation area. No significant risk of seiches and landslides occurring. No significant geology and soils impacts would occur.	erosion and geologic hazard risks. • Comply with the seismic design criteria identified in the Uniform Building Code, NAVFAC P-355 Seismic Design Manual, and the criteria identified in the latest design specifications of the Structural Engineering Association of California. • Prepare and comply with geotechnical studies that would be conducted for the Coastal Campus overall and/or for all MILCON construction sites during project design. • Implement erosion control measures after construction. • Prepare a project-specific NPDES General Construction Permit and a SWPPP.
Alternative 2 – SSTC-South Bunker Retention Alternative	The geology and soils impacts would be the same as Alternative 1.	Mitigation Measures: None Impact Avoidance and Minimization Measures**:** • Comply with the seismic design criteria identified in the Uniform Building Code, NAVFAC P-355 Seismic Design Manual, and the criteria identified in the latest design specifications of the Structural Engineering Association of California. • Prepare and comply with geotechnical studies that would be conducted for the Coastal Campus overall and/or all MILCON construction sites during project design. • Implement erosion control measures after construction. • Prepare a project-specific NPDES General Construction Permit and a SWPPP.
Alternative 3 – Multi-Installation Alternative	The geology and soils impacts at SSTC-South would be the same as Alternative 1. The construction of the MILCONs on NAB Coronado and NASNI would occur on flat already developed areas with similar geology and soils impacts as described for SSTC-South. No significant geology and soils impacts would occur.	Mitigation Measures: None Impact Avoidance and Minimization Measures**:** The impact avoidance and minimization measures for Alternative 3 would be the same as those addressed above for Alternative 2.

3.3 AIR QUALITY

3.3.1 Affected Environment

3.3.1.1 Region of Influence

The ROI for air quality has both regional and local components. The regional ROI is defined by the air basin in which the Proposed Action is located; the local ROI is defined by the specific areas where local emissions sources create local concentrations of pollutant emissions in proximity to sensitive air quality receptors.

In general, the ROI for air quality varies according to the type of air pollutant. Specifically, the ROI for air quality is based on the type of pollutant, its emissions rates, and local and regional meteorology. Regionally, the ROI for NBC is the San Diego Air Basin (SDAB), which is contiguous with the boundaries of San Diego County. Locally, the ROI would be in proximity to localized concentrations of pollutant emissions.

3.3.1.2 Air Quality Fundamentals

Air quality is defined by atmospheric concentration of specific pollutants with respect to the health and welfare of humans at a particular geographic location. Ambient air quality levels measured at a particular location are determined by the interactions of emissions, meteorology, and chemistry. Emissions considerations include the types, amounts, and locations of pollutants emitted into the atmosphere. Meteorological considerations include wind and precipitation patterns affecting the distribution, dilution, and removal of pollutant emissions. Chemical reactions can transform pollutant emissions into other chemical substances. Ambient air quality data are generally reported as a mass per unit volume (e.g., micrograms per cubic meter of air) or as a volume fraction (e.g., parts per million by volume).

Air pollutants are any substances, natural or artificial, capable of being airborne that, in high enough concentrations, harm humans, animals, vegetation, and/or materials. Sources of pollutants include the combustion of fossil fuels from transportation sources and residential, industrial, and commercial facilities, and the generation of particulate matter (PM) from the disturbance of soil. In the presence of sunlight, some air pollutants in combination can undergo or trigger chemical reactions to form by-product pollutants such as ground-level ozone.

Criteria Air Pollutants

Six major pollutants of concern, or “criteria pollutants,” have been identified by the U.S. Environmental Protection Agency (USEPA): ozone, carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), PM, and lead. PM is divided into two separate standards: inhalable particulates, equal to or smaller than 10 microns in diameter (PM_{10}), and fine particulates, equal to or smaller than 2.5 microns in diameter ($PM_{2.5}$). The criteria pollutants are described in further detail below.

Air pollutants are often characterized as being primary or secondary pollutants. Primary pollutants are those emitted directly into the atmosphere, such as CO, SO_2, lead particulates, and hydrogen sulfide (H_2S). Secondary pollutants, such as ozone, are those formed through atmospheric chemical reactions of primary pollutants with conditions such as temperature, humidity, and the intensity of ultraviolet light.

Compounds that react to form secondary pollutants are often referred to as pollutant precursors. Ozone precursors fall into two broad groups of chemicals: nitrogen oxides (NO_X) and volatile organic compounds (VOCs).

Some air pollutants occur as primary and secondary pollutants. PM_{10} and $PM_{2.5}$ are generated as primary pollutants by various mechanical or combustion processes, and as secondary pollutants through chemical reactions or by gaseous pollutants condensing into fine aerosols.

Pollutant emissions refer to the amount (usually stated as a weight) of one or more specific compounds introduced into the atmosphere by a source or group of sources. Most pollutant emissions data are presented as emissions rates. Typical measurement units for emissions rates on a time basis are pounds per hour, pounds per day, or tons per year. Typical measurement units for emissions rates on a source activity basis are pounds per thousand gallons of fuel burned, pounds per ton of material processed, and grams per vehicle mile of travel.

Ozone

Ozone is a colorless, odorless gas that primarily exists in the upper atmosphere (stratosphere) as the ozone layer and in the lower atmosphere (troposphere) as a pollutant. Ozone is a principal cause of lung and eye irritation in the urban environment. Ozone is the principal component of smog, which is formed in the troposphere through a series of reactions involving VOCs and NO_X in the presence of sunlight. Therefore, VOCs and NO_X are precursors of ozone. NO_X includes various combinations of nitrogen and oxygen, including nitrogen oxide, NO_2, and nitrogen trioxide. VOCs and NO_X emissions are considered critical in ozone formation. Control strategies for ozone have focused on reducing these emissions from vehicles, industrial processes using solvents and coatings, and consumer products. Significant ozone concentrations are normally produced only in the summer, when weather conditions are favorable for ozone formation.

Carbon Monoxide

CO is a colorless and odorless gas that, in the urban environment, is associated primarily with the incomplete combustion of fossil fuels in motor vehicles. CO can cause sudden illness and death.

Overall, CO emissions are decreasing because of the Federal Motor Vehicle Control Program, which has mandated increasingly lower emissions levels for vehicles manufactured since 1973. CO concentrations are typically higher in the winter; therefore, California has required the use of oxygenated gasoline in the winter months to reduce CO emissions.

Nitrogen Dioxide

NO_2 is a gas and a product of the combustion of fossil fuels generated from vehicles and stationary sources, such as power plants and boilers. NO_2 can cause lung damage. NO_2 is a type of NO_X and contributes to the formation of ozone and PM.

Sulfur Dioxide

SO_2 is a gas and the product of the combustion of fossil fuels, with the primary source being power plants and heavy industries that use coal or oil as fuel. SO_2 is also a product of diesel engine emissions. The human health effects of SO_2 include lung disease and breathing problems for asthmatics. SO_2 in the atmosphere contributes to the formation of acid rain.

Particulate Matter

PM is a complex mixture of extremely small particles and liquid droplets. PM is made up of a number of components, including acids (such as nitrates and sulfates), organic chemicals, metals, and soil or dust particles. Natural sources of particulates include windblown dust and ocean spray. Some particulates are emitted directly into the atmosphere. Others, referred to as secondary particles, result from gases that are transformed into particles through physical and chemical processes in the atmosphere.

The size of PM is directly linked to the potential for causing health problems. USEPA is concerned about inhalable particles that are 10 micrometers in diameter or smaller (PM_{10}), because those are the particles that generally pass through the throat and nose and enter the lungs. Once inhaled, these particles can affect the heart and lungs and cause serious health effects. Health studies have shown a significant association between exposure to PM and premature death. Other important effects include aggravation of respiratory and cardiovascular disease, lung disease, decreased lung function, asthma attacks, and certain cardiovascular problems such as heart attacks and irregular heartbeat (USEPA 2007). Individuals who are particularly sensitive to fine particle exposure are older adults, people with heart and lung disease, and children. USEPA groups PM into two categories: coarse PM (or PM_{10}) and fine PM (or $PM_{2.5}$), as described below.

PM_{10} is found near roadways and dusty industries and is smaller than 10 microns (1 millionth of 1 meter) in diameter. Sources of PM_{10} include crushing and grinding operations, and dust from paved and unpaved roads. Control of PM_{10} is primarily achieved through controlling dust at construction and industrial sites, cleaning paved roads, and wetting or paving frequently used unpaved roads.

PM_{10} includes the subgroup of finer particles ($PM_{2.5}$), such as those found in smoke and haze, with an aerodynamic diameter of 2.5 microns or smaller. These finer $PM_{2.5}$ particles pose an increased health risk because they can deposit deep in the lungs and contain substances that are particularly harmful to human health. Sources of fine particles include all types of combustion activities (motor vehicles, power plants, wood burning, etc.) and certain industrial processes. $PM_{2.5}$ is the major cause of reduced visibility (haze) in California. Control of $PM_{2.5}$ in California is primarily achieved through the regulation of emissions sources; these regulations include the Clean Air Visibility Rule for stationary sources, 2004 Clean Air Nonroad Diesel Rule, Tier 2 Vehicle Emission Standards and Diesel Fuel Sulfur Program, and the California Air Resources Board (CARB) Goods Movement Reduction Plan and Air Toxic Control Measures.

Lead

Lead is a highly toxic metal that may cause a range of human health effects. Lead anti-knock additives in gasoline represented a major source of lead emissions to the atmosphere. However, lead emissions have significantly decreased due to the near elimination of leaded gasoline use. Lead-based paint, banned or

limited by USEPA in the 1980s, is a health hazard when deteriorating (peeling, chipping, or cracking) or altered (scraped, sanded, or heated), generating lead dust. Lead may also be present in very small quantities in initiator/detonator charges and (less commonly) as an additive in certain classes of propellants.

Toxic Air Contaminants

Air quality regulations also focus on localized hazardous air pollutants, also referred to as toxic air contaminants (TACs). For those TACs that may cause cancer, in general, there is no minimum concentration that does not present some risk (i.e., there is no threshold level below which adverse health impacts may not be expected to occur). This contrasts with the criteria air pollutants, for which acceptable levels of exposure can be determined and ambient standards have been established.

USEPA and CARB have ongoing programs to identify and regulate TACs. Among the many substances identified as TACs are asbestos, lead, and diesel exhaust particulates. The regulation of TACs is generally through statutes and rules that require the use of the maximum or best available control technology (MACT or BACT) to limit TAC emissions.

MACT/BACT for asbestos and lead have been identified for many years, and there are established rules and procedures to prevent dispersion and inhalation of these substances. Asbestos is a naturally occurring mineral used up until the mid-1980s in building materials for thermal and acoustical insulation and fire resistance; a partial ban was established by USEPA in 1989. Lead, which has a National Ambient Air Quality Standard (NAAQS), was used in paint for housing up until 1978 when lead-based paint was banned by USEPA for use in housing. Asbestos and lead, when disturbed during building demolition, can become airborne as inhalable health-hazard pollutants and, therefore, require abatement before demolition.

Particulate exhaust emissions from diesel-fueled engines (diesel PM) were identified as a TAC by CARB in 1998. The control of diesel PM emissions is a current concern of regulatory agencies at all levels. According to the 2006 California Almanac of Emissions and Air Quality (CARB 2006), the majority of the estimated health risks from TACs can be attributed to relatively few compounds, the most important being PM from diesel-fueled engines. Diesel PM differs from other TACs in that it is not a single substance, but a complex mixture of hundreds of substances. The composition of diesel PM emissions from diesel-fueled engines varies depending on engine type, operating conditions, fuel composition, lubricating oil, and whether an emissions-control system is present. Federal and state efforts to reduce diesel PM emissions have focused on the use of improved fuels, adding particulate filters to engines, and requiring the production of new-technology engines that emit fewer exhaust particulates.

Greenhouse Gases

In addition to criteria pollutants, which are hazardous to human health, natural processes and human activities produce greenhouse gases (GHGs), which absorb and emit thermal infrared radiation and trap heat in the atmosphere. The accumulation of GHGs in the atmosphere regulates Earth's temperature. Scientific evidence indicates a trend of increasing global temperature over the past century due to an increase in GHGs. Global warming due to climate change is predicted to produce negative environmental, economic, and social consequences across the globe. The US Global Climate Research Program report, *Global Climate Change Impacts in the United States*, reviewed the unique impacts of climate change on

the United States (U.S. Global Change Research Program 2009, 2014). According to the report, human-induced climate change appears to be well underway in the Southwest. Recent warming is among the most rapid in the nation, significantly more than the global average in some areas. This is driving declines in spring snowpack and Colorado River flow and decreasing surface water supply reliability for cities, agriculture, and ecosystems. Projections suggest continued strong warming, with much larger increases under higher emissions scenarios compared to lower emissions scenarios. Projected summertime temperature increases are greater than the annual average increases in some parts of the region and are likely to be exacerbated locally by expanding urban heat island effects. In California, predictions of these effects include a rise in sea level that would displace coastal businesses and residences (CalEPA 2006).

Water vapor is a naturally occurring GHG that accounts for the largest percentage of the greenhouse effect. Aside from water vapor, the most common GHGs emitted from natural processes and human activities are carbon dioxide (CO_2), methane (CH_4), and nitrous oxide. Examples of GHGs created and emitted primarily through human activities include fluorinated gases (hydrofluorocarbons and perfluorocarbons) and sulfur hexafluoride. Each GHG is assigned a global warming potential (GWP). The GWP is the ability of a gas or aerosol to trap heat in the atmosphere. The GWP rating system is standardized to CO_2, which has a value of 1. For example, CH_4 has a GWP of 21, which means that it has a global warming effect 21 times greater than CO_2 on an equal-mass basis. To simplify analyses, total GHG emissions from a source are often expressed as a CO_2 equivalent (CO_2e). CO_2e is calculated by multiplying the emissions of each GHG by its GWP and adding the results to produce a single, combined emissions rate representing all GHGs.

Federal agencies are, on a national scale, addressing emissions of GHGs by reductions mandated in Federal laws and EOs, most recently EOs 13423 and 13514. Several states have promulgated laws as a means to reduce statewide levels of GHG emissions. In particular, the California Global Warming Solutions Act of 2006 directs California to reduce statewide GHG emissions to 1990 levels by the year 2020. In addition, groups of states (such as the Western Climate Initiative) have formed regionally based collectives to jointly address GHG pollutants.

To reduce energy consumption, reduce dependence on petroleum, and increase the use of renewable energy resources in accordance with the goals set by EOs 13423 and 13514, the Energy Policy Act of 2005, and *The President's Climate Action Plan* (Executive Office of the President 2013), U.S. Department of the Navy (DoN) has implemented a number of renewable energy projects (U.S. Navy 2006c). The types of projects currently in operation within the NAVFAC Southwest region include thermal and photovoltaic solar systems, geothermal power plants, and wind generators. The military also purchases one-half of the biodiesel fuel sold in California. The DoN continues to promote and install renewable energy projects within the NAVFAC Southwest region.

The potential effects of proposed GHG emissions are global and cumulative in nature, as individual sources of GHG emissions are not large enough to have an appreciable effect on climate change. Therefore, the impact of proposed GHG emissions to climate change is discussed in the context of cumulative impacts in Section 4.3.3 of this EIS.

Odor

Odor is considered an air quality issue at the local level (e.g., odor from water treatment) and regional level (e.g., smoke from wildfires). An air pollutant means any fume, smoke, PM, vapor, gas, odorous substance, or any combination thereof. Odor is an air quality consideration for NEPA projects.

3.3.1.3 Regulatory Setting

Ambient Air Quality Standards

NAAQS for the criteria pollutants were established by the Federal Clean Air Act (CAA) of 1970 (as amended in 1977 and 1990). A criteria pollutant is defined as any air pollutant for which there is an established NAAQS. NAAQS represent the maximum levels of air pollution considered safe to protect public health and welfare. NAAQS are based on evidence of acute and chronic health effects.

Table 3.3-1 contains the current NAAQS for the criteria air pollutants. Also shown in Table 3.3-1 are H_2S, sulfates (SO_4), visibility-reducing particles, and vinyl chloride, which are not addressed in this analysis, as negligible to no emissions of these pollutants would be generated by the Proposed Action.

In addition to NAAQS, USEPA allows states to set state air quality standards that are more stringent than NAAQS based on a state's air quality. California has established California Ambient Air Quality Standards (CAAQS) for most of the criteria pollutants and for some additional pollutants for which there are no NAAQS. Most of the CAAQS are based primarily on health effects data, but can reflect other considerations such as protection of crops or materials, or avoidance of nuisance conditions (e.g., odors).

NAAQS/CAAQS Attainment Status

Specific geographic areas or air basins are designated by USEPA as either "attainment" or "nonattainment" areas for the NAAQS for each criteria pollutant based on area air-quality monitoring data. When an area is in violation of the NAAQS for a criteria pollutant, the Federal CAA requires that the area be designated by USEPA as nonattainment for that pollutant. Federal nonattainment designations for ozone, CO, and PM_{10} include degrees of classifications such as "severe" nonattainment and "moderate" nonattainment, which indicate the severity of the air quality problem.

In addition, violations of a CAAQS may result in the area being state designated as nonattainment for the CAAQS for that pollutant.

Areas that comply with Federal and/or state air quality standards (i.e., NAAQS and CAAQS) are designated as "attainment" areas. Areas previously designated as nonattainment, but reclassified from nonattainment to attainment, are designated as "attainment/maintenance" areas. Areas that lack the monitoring data sufficient to signify status are designated as "unclassified" and are treated as attainment areas for regulatory purposes.

Table 3.3-1. National and California Ambient Air Quality Standards

Pollutant	Averaging Time	National[a]		California[b]
		Primary[c, d]	Secondary[c, e]	Concentration[c]
Ozone	1 hour	—	Same as primary standard	0.09 ppm (180 µg/m^3)
	8 hour	0.075 ppm (147 µg/m^3)		0.070 ppm (137 µg/m^3)
Coarse particulate matter (PM_{10})	24 hour	150 µg/m^3	Same as primary standard	50 µg/m^3
	Annual arithmetic mean	—		20 µg/m^3
Fine particulate matter ($PM_{2.5}$)	24 hour	35 µg/m^3	Same as primary standard	No separate state standard
	Annual arithmetic mean	12 µg/m^3	15 µg/m^3	12 µg/m^3
Carbon monoxide	8 hour	9 ppm (10 mg/m^3)	None	9.0 ppm (10 mg/m^3)
	1 hour	35 ppm (40 mg/m^3)		20 ppm (23 mg/m^3)
	8 hour (Lake Tahoe)	—	—	6 ppm (7 mg/m^3)
Nitrogen dioxide	Annual arithmetic mean	0.053 ppm (100 µg/m^3)	Same as primary standard	0.030 ppm (57 µg/m^3)
	1 hour	0.100 ppm (188 µg/m^3)	None	0.18 ppm (339 µg/m^3)
Sulfur dioxide	3 hour	—	0.5 ppm (1,300 µg/m^3)	—
	1 hour	75 ppb (196 µg/m^3)	—	0.25 ppm (655 µg/m^3)
Lead[f]	Rolling 3-month average[g]	0.15 µg/m^3	Same as primary standard	—
Visibility-reducing particles	8 hour	No national standards		Extinction coefficient of 0.23 per kilometer—visibility of 10 miles or more (0.07 to 30 miles for Lake Tahoe) because of particles when the relative humidity is less than 70%. Method: Beta attenuation and transmittance through filter tape
Sulfates	24 hour			25 µg/m^3
Hydrogen sulfide	1 hour			0.03 ppm (42 µg/m^3)
Vinyl chloride[f]	24 hour			0.01 ppm (26 µg/m^3)

Notes: mg/m^3 = milligrams per cubic meter, $PM_{2.5}$ = fine particulate matter with an aerodynamic resistance diameter of 2.5 micrometers or less, PM_{10} = coarse particulate matter with an aerodynamic resistance diameter of 10 micrometers or less, ppm = parts per million, µg/m^3 = micrograms per cubic meter

[a] National standards (other than those for ozone and particulate matter and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration in 1 year, averaged over 3 years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m^3 is equal to or less than 1. For $PM_{2.5}$, the 24-hour standard is attained when 98% of the daily concentrations, averaged over 3 years, are equal to or less than the standard. Contact U.S. Environmental Protection Agency for further clarification and current federal policies.

[b] California standards for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, suspended particulate matter—PM_{10}, $PM_{2.5}$, and visibility-reducing particles—are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

[c] Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based on a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr, ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

[d] National primary standards: The levels of air quality necessary, with an adequate margin of safety, to protect the public health.

[e] National secondary standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

[f] The California Air Resources Board has identified lead and vinyl chloride as "toxic air contaminants" with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

[g] National lead standard, rolling 3-month average: final rule signed 15 October 2008.

Source: USEPA 2012; CARB 2013

NBC is located within the SDAB, which is currently designated as attainment for the NAAQS of all criteria pollutants, except for ozone. In December 2002, the San Diego Air Pollution Control District (APCD) submitted a maintenance plan for the 1-hour NAAQS for ozone and requested redesignation from USEPA from serious ozone nonattainment area to attainment. In July 2003, the SDAB was reclassified by USEPA as an attainment area for the 1-hour NAAQS for ozone. In April 2004, the SDAB was designated by USEPA as a basic nonattainment area for the 8-hour NAAQS for ozone, and in July 2005, the 1-hour NAAQS for ozone was rescinded by USEPA. USEPA was challenged on its justification for the "basic" nonattainment designations, and published "proposed" for all "basic" nonattainment areas for the 8-hour NAAQS for ozone. The SDAB is currently designated as "marginal"-nonattainment area for the 8-hour 2008 ozone standard; "marginal" is the least severe of the six degrees of ozone nonattainment (USEPA 2013).

The SDAB is currently designated as an attainment/maintenance area for CO, due to the SDAB reclassification in 1994 from nonattainment to attainment for the NAAQS for CO. Therefore the SDAB is under a CO maintenance plan.

In addition, the SDAB is currently designated by the State of California as an attainment area for CAAQS for all criteria pollutants, except for ozone and PM_{10} and $PM_{2.5}$. The SDAB is designated by the state as a "serious" state ozone nonattainment area, and a state nonattainment area for PM_{10} and $PM_{2.5}$.

Within each air basin, the respective air quality management district (AQMD) or APCD is responsible for protecting public health and welfare through administration of Federal and state air quality laws and policies. These air districts monitor air pollution, prepare and implement their portion of the State Implementation Plan (SIP), and promulgate rules. The SIP for each air district includes strategies and tactics to be used to attain and maintain acceptable air quality in each jurisdiction, including establishing an annual air emissions budget. The rules for each district include procedures and requirements to control the emissions of pollutants and prevent significant impacts. The air district within the SDAB is the San Diego APCD.

Federal Requirements

USEPA is the Federal agency responsible for enforcing the CAA of 1970 and its 1977 and 1990 amendments. The purpose of the CAA is to establish NAAQS to classify areas for attainment status, develop schedules and strategies to meet the NAAQS, and regulate emissions of criteria pollutants and air toxics to protect public health and welfare.

State Implementation Plan

Section 110 of the CAA requires each state to develop, adopt, and implement a SIP to achieve, maintain, and enforce Federal air quality standards throughout the state. The SIP must be approved by USEPA. Deadlines for achieving these standards vary according to air pollutant and the severity of existing air quality problems. In California, the SIP consists of separate elements for different regions of the state. SIP elements are developed on a pollutant-by-pollutant basis whenever one or more air quality standards are being violated. Local AQMDs and APCDs have the primary responsibility for developing and adopting the regional elements of the California SIP. In compliance with the CAA as amended, Federal agencies are required to demonstrate that Federal actions conform to the applicable SIP.

Clean Air Act Conformity Process

Section 176(c) of the CAA requires USEPA to promulgate rules to ensure that Federal actions undertaken in nonattainment or maintenance areas are consistent with the CAA and with federally enforceable air quality management plans (i.e., SIPs). These rules, known as the General Conformity Rule (40 C.F.R. §§ 51.851 and 93.150–93.165), require any Federal agency responsible for an action in a Federal nonattainment or attainment/maintenance area to demonstrate conformity to the applicable SIP by either determining that the action is exempt from the General Conformity Rule requirements or subject to a formal conformity determination.

The General Conformity Rule applies to Federal actions occurring in Federal nonattainment or maintenance areas when the total direct and indirect emissions of nonattainment pollutants (or their precursors) exceed specified thresholds. The emissions thresholds that trigger requirements of the General Conformity Rule are known as *de minimis* levels, which vary based on degree of nonattainment in a particular region. The General Conformity Rule does not apply in attainment/unclassified areas. Actions would be exempt, and thus conform to the SIP, if an applicability analysis shows that the total direct and indirect emissions of nonattainment or attainment/maintenance pollutants from project construction and facility operations would be less than applicable *de minimis* levels.

The U.S. Navy, in accordance with EO 13423, developed OPNAVINST 5090.1D, which contains guidance for air quality analysis and general conformity determinations (U.S. Navy 2014).

The Proposed Action sites are located within the SDAB, which is currently designated as a Federal marginal-nonattainment area for 8-hour ozone, and an "attainment/maintenance area" for CO. Therefore, the General Conformity Rule is applicable for emissions of CO and ozone (i.e., ozone precursor emissions of VOCs and NO_X). The Proposed Action would include construction and operational sources that would emit CO, VOCs, and NO_X. The applicable General Conformity *de minimis* thresholds for projects proposed in the SDAB are shown in Table 3.3-2.

Table 3.3-2
General Conformity *de minimis* Thresholds for Projects in the SDAB

Pollutant	Emission Threshold (tons/year)
CO	100[1]
NO_X	100[2]
VOCs	100[2]

[1] Attainment/maintenance area for CO.
[2] Marginal-nonattainment area for 8-hour ozone precursors: NO_X and VOCs.
Source: 40 C.F.R. § 93

To document conformity of the Proposed Action, a Record of Non-Applicability (RONA) was prepared as part of the Draft EIS and signed on 11 February 2015 (Appendix B). A RONA is a memorandum required by U.S. Navy policy that reflects the determination by an authorized official that a formal conformity analysis/determination is not required (U.S. Navy 2014). If not determined exempt, a formal Conformity Determination would be required.

New Source Review

The 1977 CAA Amendments established New Source Review (NSR), which is a preconstruction permitting program of stationary air pollution sources. An NSR permit is required when a source has the pootential to emit any pollutant regulated under the CAA in amounts equal to or exceeding specified major source thresholds (100 or 250 tons per year), predicated on the source's industrial category. A major modification to the source also triggers an NSR. Any new or modified stationary emissions source requires construction and operating permits from the APCD. Through the APCD's permitting process, all stationary sources are reviewed and subject to an NSR process. The NSR process ensures that factors such as the availability of emissions offsets and their ability to reduce emissions are addressed and conform to the SIP.

State and Local Requirements

The California CAA of 1988 (26 California Health and Safety Code § 10,000 et seq.) requires APCDs and AQMDs to attain and maintain national and state ambient air quality standards at the "earliest practicable date." Local APCDs must prepare air quality plans demonstrating the means by which the ambient air quality standards will be attained and maintained. Local APCDs have also been delegated authority by USEPA to implement and enforce most Federal requirements. Compliance with APCD regulations ensures compliance and consistency with the corresponding Federal requirements as well.

In the SDAB, San Diego APCD is the agency responsible for protecting public health and welfare through the administration of Federal and state air quality laws and policies. APCD monitors air pollution, prepares and implements its portion of the SIP, and promulgates rules and regulations. The SIP for APCD includes strategies and tactics to be used to attain and maintain acceptable air quality in its jurisdiction, including establishing annual air emissions budgets for the area. In the SDAB, this list of strategies is contained in the Regional Air Quality Strategy. The rules and regulations for APCD include procedures and requirements to control the emissions of pollutants and prevent significant impacts.

These APCD regulations require permits for any equipment that emits or controls air contaminants before construction, installation, or operation (e.g., Authority to Construct or Permit to Operate). The Navy must submit applications to APCD for review and approval. APCD is responsible for review of permit applications and approval and issuance of these permits. Once a permit is issued, the Navy is responsible for compliance with the conditions specified in the permit, and quantification of emissions associated with the permitted unit. APCD does not have quantitative emissions limits for construction activities or long-term emissions that may result from increased vehicle use or other mobile sources. The specific prohibitions set forth in Rules 50 and 51 require compliance with restrictions on emissions of visible matter, nuisance emissions (such as odors and dust), and particulates.

3.3.1.4 Existing Conditions

Climate, Topography, and Meteorology

Climate, topography, and meteorology influence regional and local ambient air quality. Southern California is characterized as a semiarid climate, although it contains three distinct zones of rainfall with coinciding floristic patterns. The region's climatic zones may be roughly defined as being coincident with its broad geographic and topographic regions of coast, mountain, and desert. A subregion consists of

coastal valleys lying below the mountains, separated from the ocean shore by plateaus and low hills behind the coastline (U.S. Navy 2000). SSTC-South is characterized by coastal plain.

The coastal plain is characterized by a mild temperature range of 35 to 90 degrees Fahrenheit (°F). Seasonal rainfall along the coast is about 10 inches in the coastal San Diego County area. Most precipitation occurs November through March, but wide variations take place in monthly and seasonal totals (U.S. Navy 2000).

The general region lies in the semipermanent, high-pressure zone of the eastern Pacific (the Pacific High), resulting in a mild climate tempered by cool sea breezes with light average wind speeds. The typical daily wind pattern is a light to moderate westerly onshore sea breeze during the day, giving way to light offshore breezes at night. The Pacific High maintains clear skies for much of the year and drives the dominant onshore circulation. During fall, the region often experiences dry, warm easterly winds, locally referred to as Santa Ana winds, which raise temperatures and lower humidity, often to less than 20 percent (U.S. Navy 2000).

A dominant characteristic of spring and summer is night and early morning cloudiness, locally known as the marine layer. Low clouds form regularly, frequently extending inland over the coastal foothills and valleys. These clouds usually dissipate during the morning, and afternoons are generally clear. Fog occurs along the Southern California coast an average of 29 days per year (U.S. Navy 2000).

A common atmospheric condition known as a temperature inversion affects air quality in the SDAB. During a temperature inversion, air temperatures get warmer rather than cooler with increasing height. Radiation inversions typically develop on winter nights with low wind speeds when air near the ground cools by radiation and the air aloft remains warm. A shallow inversion layer that can trap pollutants is formed between the two layers. The Pacific High helps create two types of temperature inversions, subsidence and radiation, that contribute to the degradation of local air quality.

Subsidence inversions occur during the warmer months (May through October) as descending air associated with the Pacific High comes into contact with cool marine air. The boundary between the layers of air represents a temperature inversion that traps pollutants below it. The inversion layer is approximately 2,000 feet above mean sea level May through October. During the winter (November through April), the inversion layer is approximately 3,000 feet above mean sea level. Inversion layers are important elements of local air quality because they inhibit the dispersion of pollutants, thus resulting in a temporary degradation of local air quality.

Regional and Local Air Quality

Regional air quality is typically defined by geographical areas, designated air basins, or planning areas, and attainment with the NAAQS and CAAQS is determined from recent data from air quality monitoring stations. NBC is located within the SDAB, which is currently designated as attainment for the NAAQS of all criteria pollutants except ozone. The SDAB is designated as an attainment/maintenance area for CO and is subject to a CO maintenance plan. The SDAB is designated as a state nonattainment area for ozone, PM_{10}, and $PM_{2.5}$.

APCD operates a network of ambient air monitoring stations throughout the SDAB. The monitoring stations measure ambient concentrations of the pollutants and determine whether the ambient air quality

meets the CAAQS and NAAQS. The nearest monitoring station to the Proposed Action footprint is located in the City of Chula Vista, California. Ambient concentrations of pollutants over the last 4 years as recorded at the Chula Vista monitoring station are presented in Table 3.3-3.

As shown in Table 3.3-3, four exceedances of the Federal 8-hour ozone standard were recorded in this timeframe. There were no exceedances of the Federal 24-hour PM_{10} standard, and 18 exceedances of the more stringent California 24-hour PM_{10} standard. Three exceedances of the Federal 24-hour $PM_{2.5}$ standard were recorded in 2009. There were no exceedances of any of the other Federal or California standards.

Pollution Sources

Regional Sources

The most significant regional sources of PM_{10} and $PM_{2.5}$ are construction, demolition, and dust from vehicle use on paved and unpaved roads. Coarser particles are directly emitted from activities that disturb the soil, including entrained dust from travel on paved and unpaved roads, and construction operations. Other sources include windblown dust, pollen, salts, brake dust, and tire wear. Combustion sources such as vehicles, diesel engines, and industrial facilities also emit PM_{10} and $PM_{2.5}$.

The most significant regional sources of ozone, NO_2, and CO emissions are automobiles and other on-road vehicles. Ozone is formed by the reaction of VOCs and NO_X, which are combustion products from gas and diesel engines.

Local Sources

NBC generates PM and exhaust emissions from construction and operational activities. PM becomes airborne from vehicle travel on paved and unpaved roads; training exercises, including amphibious, convoy, and vehicular operations; and landscaping, maintenance, and construction activities. Exhaust emissions of ozone, NO_2, and CO are generated by vehicle traffic; weapons firing; maintenance, landscaping, and construction equipment and vehicles; and small stationary sources. The segment of SR-75 adjacent to SSTC-South is a major source of vehicular pollutant emissions on the Silver Strand.

3.3.2 Environmental Consequences

This section identifies potential air quality impacts that may result from implementation of the Proposed Action alternatives.

To assess air quality effects in compliance with NEPA, pollutant emissions were estimated for all potential construction and operational activities for the Proposed Action alternatives. The NEPA analysis includes a CAA General Conformity Applicability Analysis to make an applicability determination pursuant to the General Conformity Rule (40 C.F.R. § 93[B]) by focusing on activities that could potentially impact nonattainment or maintenance areas within the ROI.

Table 3.3-3
Ambient Air Quality Summary – Chula Vista Monitoring Station

Pollutant Standards	2008	2009	2010	2011
Carbon Monoxide (CO)				
National maximum 8-hour concentration (ppm)	1.87	1.43	1.56	*
State maximum 8-hour concentration (ppm)	1.87	1.43	1.56	*
Number of Days Standard Exceeded				
NAAQS 8-hour (>9.0 ppm)	0	0	0	0
CAAQS 8-hour (>9.0 ppm)	0	0	0	0
Nitrogen Dioxide (NO_2)				
State maximum 1-hour concentration (ppm)	0.072	0.065	0.050	0.057
Annual average (ppm)	0.015	0.013	0.012	0.012
Number of Days Standard Exceeded				
CAAQS 1-hour	0	0	0	0
Ozone (O_3)				
State maximum 1-hour concentration (ppm)	0.107	0.098	0.107	0.083
National maximum 8-hour concentration (ppm)	0.083	0.075	0.082	0.057
Number of Days Standard Exceeded				
CAAQS 1-hour (>0.09 ppm)	1	1	1	0
NAAQS 8-hour (>0.075 ppm)	2	0	2	0
Particulate Matter (PM_{10})[a]				
National maximum 24-hour concentration ($\mu g/m^3$)	53.0	57.0	43.0	45.0
State maximum 24-hour concentration ($\mu g/m^3$)	54.0	58.0	45.0	46.0
State annual average concentration ($\mu g/m^3$)	26.7	26.2	24.6	21.9
Estimated Number of Days Standard Exceeded				
NAAQS 24-hour (>150 $\mu g/m^3$)	0	0	0	0
CAAQS 24-hour (>50 $\mu g/m^3$)	6.1	12.2	0	*
Particulate Matter ($PM_{2.5}$)[a]				
National maximum 24-hour concentration ($\mu g/m^3$)	32.9	43.7	22.7	27.9
State maximum 24-hour concentration ($\mu g/m^3$)	32.9	43.7	22.7	27.9
National annual average concentration ($\mu g/m^3$)	12.3	11.4	*	*
State annual average concentration ($\mu g/m^3$)	12.3	11.4	*	*
Estimated Number of Days Standard Exceeded				
NAAQS 24-hour (>65 $\mu g/m^3$)	0	3.1	*	*

Notes: ppm = parts per million; $\mu g/m^3$ = micrograms per cubic meter

* Data Unavailable

[a] State and national statistics may differ for the following reasons: State statistics are based on California-approved samplers (sampling devices), whereas national statistics are based on samplers using Federal reference or equivalent methods. State and national statistics may, therefore, be based on different samplers. State statistics are based on *local* conditions; national statistics are based on *standard* conditions. State criteria for ensuring that data are sufficiently complete for calculating valid annual averages are more stringent than the national criteria.

Source: CARB 2012

3.3.2.1 Approach to Analysis

The data for the Proposed Action air quality analysis are based on proposed demolition of existing structures, construction of proposed facilities, operation of constructed facilities, and net increase in operational vehicle trips occurring at SSTC-South, NAB Coronado, and NASNI, as described in Chapter 2.

Emissions from sources associated with the Proposed Action would occur within the SDAB, an area that is in attainment of the NAAQS for criteria pollutants, with the exception of ozone (marginal-nonattainment) and CO (attainment/maintenance). The General Conformity Rule is not applicable to attainment areas; however, general conformity does apply to nonattainment areas (i.e., ozone for SDAB) and attainment/maintenance areas (i.e., CO for SDAB). In addition, NEPA and its implementing regulations require analysis of the significance of air quality impacts from these sources.

The impact analysis methodology common under the Proposed Action alternatives is to estimate the anticipated annual emissions for each calendar year under each of the Alternatives 1, 2, and 3, and compare the annual emissions of each alternative against the annual significance thresholds established for General Conformity and NEPA to determine any potential air quality impacts and mitigation required.

Emissions Sources

Regional air pollutant emissions would be generated from demolition of existing facilities, construction of the proposed facilities, and, to a lesser degree, operation and maintenance of the constructed facilities, and the minor net increase in vehicle trips.

Demolition and construction activities would generate temporary (short-term) emissions of fugitive dust emissions (PM_{10} and $PM_{2.5}$) from earth-moving activities (e.g., grading, trenching, and backfilling); exhaust emissions (NO_X, oxides of sulfur [SO_X], CO, VOCs, $PM_{2.5}$, and PM_{10}) from construction equipment and vehicles, including worker vehicles; and emissions (VOCs) from architectural coatings (i.e., painting).

Operation and maintenance of the constructed facilities would generate minor, permanent exhaust emissions, including area sources (i.e., natural gas heating emissions), stationary-source emissions, and mobile-source emissions (i.e., facility operation and maintenance vehicle trips).

Project operation would generate minor, permanent exhaust emissions from the minor net increase in mobile-source emissions (i.e., minor net increase in regional vehicle trips at NBC).

Air Quality Modeling

Air pollutant emissions that would be generated by the Proposed Action alternatives were estimated using the URBEMIS 2007 model, version 9.2.4 (Rimpo 2008). The emissions factors and calculation methodologies contained in the URBEMIS 2007 program have been developed and approved for use by CARB. URBEMIS is a calculation tool designed to estimate air pollutant emissions from land use

development projects based on development type and size.[1] The model contains data specific for certain California air basins and counties, and statewide. San Diego County is not one of the specific counties contained in URBEMIS 2007; therefore, rather than use the statewide URBEMIS database, the adjacent Orange County database was used for this project.[2] The differences between areas are limited to on-road emissions parameters, and variations would be negligible compared to the overall accuracy of the estimated input data and the assumptions used for the URBEMIS model.

The URBEMIS model groups emissions sources into three categories: construction, area, and operation. Depending on the facilities proposed, construction emissions sources in URBEMIS include facility demolition, site grading, utility installation, facility construction, and surface paving. Area emissions sources from the constructed facilities include primarily use of natural gas for space and water heating, and landscape maintenance. Operational-related emissions sources in URBEMIS include mobile sources (i.e., vehicle trips) associated with the operation and maintenance of constructed facilities.

Project Development Scenario

The air quality analysis for the Proposed Action is based on the current understanding of the project development, which is preliminary and conceptual. As identified in Chapter 2, the development of the proposed NBC Coastal Campus would be based on the fiscal year (FY) the MILCON funding is authorized with construction beginning at the start of the calendar year. Project development is proposed for 2015 through 2024.

Total project development on the NBC Coastal Campus would be estimated at 1,459,000 square feet. For the purposes of this emission analysis, the percentage of square footage developed is clustered in three phases: 40 percent from 2015–2018, 40 percent from 2019–2022, and 20 percent from 2023–2024, which results in approximately 10 percent developed each year from 2015–2024. Project development acreage and years are estimated to be the same for Alternatives 1, 2, and 3.

Existing structures within the developmental footprint, primarily at SSTC-South, and to a lesser degree NAB Coronado, would require demolition for the proposed construction. Up to 20 structures at SSTC-South and 10 structures at NAB Coronado would be considered for demolition to facilitate the Proposed Action. Structures vary in type and size (i.e., from large buildings to maintenance sheds); total demolition surface area is approximated at 100,000 square feet, or a volume of approximately 37,037 cubic yards, to be demolished 10 percent per year (3,704 cubic yards/year) to coincide with the 10-year development period of the project.

Annual demolition/construction emissions are based on the annual development of the project acreage. However, 2015 and 2016 emissions would also include demolition of Building 99 (the largest bunker) for Alternative 1; therefore, under Alternative 1, the annual emissions would be higher for 2015 and 2016 than the annual emissions for 2017–2024. Annual area emissions (i.e., heating from natural gas) from the operation of the proposed facilities, and the net increase in annual operational emissions (i.e., net

[1] The URBEMIS 2007 program calculates reactive organic gases (ROG) as opposed to VOC. ROG is the term used by CARB. The definition of ROG and VOC are similar; however, ROG includes several additional compounds. For purposes of air quality analysis, these terms are interchangeable.

[2] This is why the URBEMIS output sheets included in Appendix B include the label “Project Location: Orange County” despite the fact that all Proposed-Action-related activities would occur in San Diego County.

increase in vehicle trips at NBC) would also be included in annual project emissions. Existing vehicle trips at NBC, which would be redistributed under the Proposed Action, are existing regional emissions, accounted for in previous regional analyses, and therefore, are not further evaluated in this analysis.

Inputs to the URBEMIS modeling include data provided, data based on standard construction procedures, or industry standard defaults included in the URBEMIS model. Project construction schedules, including start/end dates and durations, were estimated based on the MILCON years (2015 through 2024) for the proposed projects.

Project Emissions and Significance Thresholds

Since the CAA General Conformity *de minimis* thresholds are annual thresholds in tons per year, project emissions in the SDAB were quantified for the MILCONs in URBEMIS as total emissions per calendar year (January–December).

In addition to General Conformity, determination of significant air quality impacts under NEPA is required for NEPA documents such as this EIS. A NEPA air quality significance analysis differs from the General Conformity analysis in that all project criteria pollutant emissions are considered; this would include attainment pollutants, as well as nonattainment and maintenance pollutant emissions (previously considered under General Conformity). Therefore, in the SDAB, project attainment emissions of SO_X, PM_{10}, and $PM_{2.5}$ would be considered for NEPA impact significance for air quality in addition to CO, VOCs, and NO_X, which were also addressed in compliance with General Conformity.

For those air pollutants in the SDAB that are in attainment of the NAAQS, the General Conformity requirements and thresholds do not apply. For these air pollutants, the analysis used thresholds from the USEPA Prevention of Significant Deterioration (PSD) permitting program that defines major stationary sources of emissions as the evaluation criteria for determining the potential for significance of air quality impacts. Although the PSD permitting program is not applicable to mobile sources, PSD thresholds are being used as criteria for measuring air quality impacts in compliance with NEPA. Therefore, for NEPA significance, the total annual direct and indirect project emissions of attainment pollutants, as well as the emissions of nonattainment/maintenance pollutants (analyzed for General Conformity above), from project construction activities would be compared against the PSD emissions rate thresholds of 250 tons per year for these pollutants.

Local Emissions

In addition to regional emissions impacts, localized air quality impacts of CO and TAC emissions are also considered.

Local CO

Relatively high local CO concentrations (“hotspots”) are typically found near congested intersections and roadways carrying slow-moving traffic. CO hotspots can be hazardous to human receptors located adjacent to congested intersections and roadways. CO concentration is a direct function of motor vehicle activity, particularly during peak commute hours, and meteorological conditions. Under specific meteorological conditions, CO concentrations may reach unhealthy levels with respect to local sensitive land uses, such as residential areas, schools, preschools, playgrounds, and hospitals. Even under the

most confining meteorological and congested traffic conditions, high concentrations of CO are limited to locations within a relatively short distance (300 to 600 feet) of heavily traveled roadways.

Vehicle congestion, which ranges from level of service (LOS) A (free-flowing intersection traffic) to LOS F (congested intersection traffic), is determined by roadway and intersection LOS analysis. Signalized intersections of LOS D or F have the potential to generate a CO hotspot, which are typically of concern near human receptors, according to the Transportation Project-Level Carbon Monoxide Protocol (CO Protocol) (UCD ITS 1997).

The CO Protocol provides procedures and guidelines for use by agencies that sponsor transportation projects, to determine the level of analysis, if any, required to evaluate for potential local CO impacts. The CO Protocol specifically applies to Federal Highway Administration (FHWA)/Federal Transit Administration (FTA) transportation projects; defined as projects that are proposed to receive funding assistance and approval through the Federal-Aid Highway program or the Federal Mass Transit program, or that require FHWA or FTA approval for some aspect of the project, such as connection to an interstate highway or deviation from applicable design standards on the interstate system (UCD ITS 1997). However, the Proposed Action is not a FHWA/FTA transportation project; thus, the CO Protocol is not required.

As described in Section 3.9, Traffic and Circulation, the project signalized intersections currently operate at LOS D or better, except for several intersections, which operate at LOS E or F during the morning and/or afternoon peak hours. During project construction, construction traffic volumes would temporarily contribute to delays at these LOS E or F intersections. The operation of the Proposed Action in itself does not generate significant new operational vehicle trips because it would involve the relocation of military personnel from SSTC-North to SSTC-South. This would redistribute existing and future SSTC commuter trips to these subject intersections during peak AM and PM hours. These intersections are located within the City of Coronado (intersection number 10) along Silver Strand Boulevard (SR-75) and within the City of Imperial Beach (intersection numbers 10, 18, 19, 26, 28, 30, and 31) along Palm Avenue (SR-75).

Each of these intersections along SR-75 is operated and maintained by Caltrans; however, each falls within the local jurisdiction boundaries, as SR-75 intersects with local (Cities of Coronado or Imperial Beach) streets. In addition, the CO Protocol; (UCD ITS 1997) is used by agencies that sponsor transportation projects, such as Caltrans. This protocol is not required as the Proposed Action is not a transportation project. The Cities of Coronado and Imperial Beach have not developed their own screening criteria for CO hot spots. Many APCDs and AQMDs have established preliminary screening thresholds criteria to determine if local CO analyses are required. The San Diego APCD does not provide thresholds; however, the Sacramento Metropolitan Air Quality Management District (SMAQMD) does. The SMAQMD's screening thresholds were used to evaluate the Proposed Action for local CO hotspots. According to the SMAQMD screening criteria, a project would not result in significant localized CO impacts if the following would occur:

- The project would not result in an affected intersection experiencing more than 31,600 vehicles per hour.
- The project would not contribute traffic to a tunnel, parking garage, bridge, underpass, urban street canyon, or below-grade roadway; or other locations where horizontal or vertical mixing of air would be substantially limited.

- The mix of vehicles at the intersection is not anticipated to be substantially different from the County average.

The Proposed Action would not exceed these criteria. As shown in Figures 3.9-6b and 3.9-6c in Section 3.9 of this EIS, the project LOS F intersections would not exceed 31,600 vehicles during the peak AM or PM hours. In addition, none of these intersections are in a location where horizontal or vertical mixing of air would be limited and the mix of vehicles would be typical. Therefore, no localized CO impacts would occur as a result of the Proposed Action alternative.

TAC

The principal TAC of concern for all MILCONs is diesel PM from diesel construction equipment and vehicles. Asbestos and lead-based paint are a consideration for older structures proposed for demolition.

The primary local concern with diesel PM is the proximity (i.e., within approximately 500 feet) of sensitive air quality receptors (e.g., children and those convalescing in medical facilities) to high concentrations of diesel vehicle operation, such as interstate highways, distribution centers, or bus stations or port facilities. The project construction areas of Alternatives 1, 2, and 3 would occur primarily on SSTC-South, with additional construction occurring at NAB Coronado and NASNI under Alternative 3, and for off-site infrastructure improvements. Diesel construction equipment and vehicles (compliant with applicable CARB Air Toxic Control Measures to reduce diesel PM) would be used at these sites, which are adjacent to major and minor roadways that pass through developed and populated areas. However, there are no sensitive air quality receptors (e.g., children at schools and residences with outdoor recreational areas) on SSTC-South or near the construction sites at NAB Coronado and NASNI. There are sensitive air quality receptors, such as housing and schools with recreational areas, in proximity to the southern boundary of SSTC-South. However, construction activities on SSTC-South would be temporary and a sufficient distance (i.e., approximately 500 feet) from the southern boundary. Overall, the diesel PM emissions generated from these mobile sources would not subject sensitive receptors to adverse levels of diesel PM emissions.

In addition to diesel PM emissions, demolition of buildings and structures may potentially generate asbestos and lead emissions. If these buildings or structures to be demolished were constructed before 1980, there is a potential that insulation materials may contain asbestos and paint may contain lead. The Navy is required to survey its buildings and facilities for asbestos materials and lead-based paint. Disturbance of asbestos materials during demolition creates the potential that asbestos fibers would become airborne and create a health hazard for inhalation and ingestion. Appropriate asbestos abatement measures would be performed on identified asbestos materials before demolition of buildings. The Navy is required to notify APCD in writing 10 days prior to any demolition whether asbestos is present or not. For lead, installation policy is to inspect and sample the paint in the building to be demolished. If detected, appropriate lead abatement measures would be performed before building demolition occurs. Demolition of the Building 99, under Alternative 1, would primarily involve concrete, steel, and iron rebar. Building 99 interior may include asbestos and lead paint, which would be inspected, and remediated if identified, prior to demolition.

Overall, emissions of TACs that would occur during project construction activities would be subject to dispersion due to prevailing wind and other dispersion factors. Because the majority of activities would

occur in restricted areas where no sensitive receptors (e.g., residents, schools, hospitals) are located, no health effects would be anticipated from emissions of TACs.

Greenhouse Gases

The GHG and climate change impact methodology is discussed in Section 4.2.3, Cumulative Impacts.

3.3.2.2 No Action Alternative

Impacts

The No Action Alternative would maintain existing facilities and land uses at SSTC-South, NAB Coronado, and NASNI, and none of the proposed construction, demolition, or improvements associated with the NBC Coastal Campus would occur. No new construction or operational air pollutant emissions sources would be generated. Emissions levels would remain constant for those baseline emissions sources that are not affected by other Federal, state, or local requirements to reduce air emissions. Emissions associated with motor vehicles may decrease due to the implementation of Federal and California CAA requirements to reduce vehicle emissions. As a result, no net emissions increases would result from implementation of the No Action Alternative. Therefore, the No Action Alternative is exempt from the General Conformity Rule.

Mitigation Measures/Impact Avoidance and Minimization Measures

No mitigation measures or impact avoidance and minimization measures are proposed.

3.3.2.3 Alternative 1 – SSTC-South Bunker Demolition Alternative (Preferred Alternative)

Impacts

Alternative 1 would include the construction and operation of the 24 MILCONs and associated support facilities (described in Section 2.5.2) at SSTC-South over the proposed 10 years of project development (i.e., 2015 through 2024).

One of the initial components of project development under Alternative 1 would be the demolition of Building 99. Due to its location within the Proposed Action footprint, demolition of Building 99 would occur at the start of project construction in 2015 and continue for approximately 24 months, with an anticipated ending in 2016. This above and below ground structure includes approximately 49,900 cubic yards of demolition materials, or approximately 24,950 cubic yards per year for years 2015 and 2016. Building 99 demolition would require the use of drilling, small commercial explosives, and heavy equipment including hydraulic breakers (e.g., hoe-rams) and concrete “diamond” saws to demolish the structure, and then break up and sort the demolition materials on-site for potential reuse or recycling, or landfill disposal. Air pollutant emissions generated by demolition of Building 99 are included in the emissions analysis.

In addition to the demolition of Building 99, other existing structures (up to 20 structures at SSTC-South) would require demolition (approximately 3,704 cubic yards per year). The demolition of these structures would require the use of heavy equipment similar to the demolition of Building 99, including excavators and hydraulic pavement breakers (e.g., hoe-rams); however, drilling and explosives are not anticipated to

be required. Demolished structures debris would be sorted on-site for potential reuse, recycle, or landfill disposal, similar to hauling for Building 99 demolition. Air pollutant emissions generated by structures demolition are included in annual increments in the emissions analysis.

Demolition of structures and Building 99 would be completed in compliance with the detailed project demolition plan and abatement plan. Documentation would be prepared and submitted to APCD (i.e., Notice of Intent) with prior coordination and approval by NBC Environmental Management. Both temporary and permanent fugitive dust control measures would be employed in accordance with the APCD. Disturbed areas not developed would be revegetated or repaved as appropriate.

C&D debris landfill diversion is mandated by Commander Navy Region Southwest Instruction 11350.1B, which requires at least 60 percent diversion of the C&D debris to first reuse, then recycle, and lastly landfill disposal. The maximum annual volume of C&D debris generated under Alternative 1 would be approximately 28,654 cubic yards in years 2015 and 2016 including:

- 24,940 cubic yards/year from Building 99 and
- 3,704 cubic yards/year from other demolished buildings.

The mandated 60 percent diversion of C&D debris would divert approximately 17,192 cubic yards/year in years 2015 and 2016, and 2,222 cubic yards per year in years 2017 through 2024 to potential reuse and recycle, and the remaining 40 percent of C&D debris would be hauled by truck to landfill. However, of the 60 percent of C&D debris diverted, a Solid Waste Management Plan, as described in Section 3.12.1.3, would be required to determine what percentage would be suitable for reuse (estimated at approximately 20 percent). Additionally, other materials, such as iron and metals, could be taken off-site to industrial recycling facilities. Unsuitable materials could then be transported to a landfill for disposal as a last resort.

Based on the most conservative (maximum hauling) scenario for estimating emissions impacts (i.e., no potential for reuse on-site), the truck hauling of the total volume of demolition materials (approximately 49,900 cubic yards) would require a total of approximately 5,400 roundtrips using heavy trucks with 20-cubic yard capacity over the 2-year Building 99 demolition period (2015-2016). The 5,400 trips spread out evenly over 2 years equates to 225 trips per month (i.e., 12 trips per day). However, truck haul trips are anticipated to fluctuate based on demolition progress and the quantity of stockpiled materials ready for hauling.

The maximum hauling scenario, assuming 100 percent of all C&D debris generated is unsuitable for reuse and is stockpiled and ready for continuous hauling, would equate to:

- One truck trip departing the site every 10 minutes (i.e., 6 one-way trips per hour or 12 roundtrips per hour);
- Assuming trips occur weekdays between 7:00 AM and 5:00 PM, that equates to 60 one-way trips per day (i.e., 120 roundtrips per day);
- Assuming 120 roundtrips per day, the 5,400 total roundtrips would be achieved in 45 hauling days; or 9 weeks (assuming 5 hauling days per week).

The proposed truck haul route would leave the site through the proposed North Gate and run along SR 75 southbound through Imperial Beach to the SR 75 interchange with I-5.

If material is suitable for reuse, a temporary concrete batch plant could be established on-site. The concrete used on-site would be mixed by a portable batch plant that would remain at the primary staging area for the duration of construction. The batch plant could supply concrete for infrastructure and building foundations. The batch plant would consist of mounds of usable aggregate from demolished buildings on-site and sand that would be imported from nearby quarries. The plant is assumed to generate approximately 10,000 cubic yards of concrete per year.

Emission factors for materials processing and the concrete batch plant are provided by the USEPA emissions factor document AP-42 (USEPA 1995) and were used to calculate emissions for the project's batch plant operations. Emissions from the processing of materials consist primarily of PM_{10}. Processing operations, such as conveying, screening, crushing, and storing, are generally wet or moist when handled, and are often negligible (USEPA 1995). Total annual emissions from the crushing and screening of aggregate, concrete batch plant operation, storage piles, and equipment emissions are provided in Table 3.3-4, and are included as part of the total annual emissions in Tables 3.3-5 and 3.3-6.

Table 3.3-4
Estimated Annual On-site Concrete Plant Emissions

	Emissions (tons per year)					
Plant Component	**VOC**	**NO_X**	**CO**	**PM_{10}**	**$PM_{2.5}$**	**SO_X**
Crushing of C&D Aggregate	-	-	-	0.02	-	-
Screening of C&D Aggregate	-	-	-	0.06	-	-
Batch Plant	-	-	-	0.97	-	-
Pile Storage	-	-	-	0.08	-	-
Equipment Operation	0.06	0.48	0.14	0.02	-	0.04
Total Annual Emissions	**0.06**	**0.48**	**0.14**	**1.15**		**0.04**

Source: USEPA 1995

Implementation of Alternative 1 would generate air pollutant emissions from demolition/construction and operation, as described in the Approach to Analysis in Section 3.3.2.1 above, which assumes 10 percent project development each of the 10 years of development (2015 through 2024), and the demolition of Building 99 and other buildings, including debris reuse/recycle (60 percent) and hauling (40 percent) (2015 through 2016). Therefore, annual project demolition/construction and operational emissions are estimated to be otherwise similar for each year (2015 through 2024) with minor increases in area and operational emissions each year from previous years (2015 through 2024). For 2015 through 2016 annual emissions being higher due to the additional emissions associated with the demolition of Building 99 and 60/40 percent reuse and recycle/hauling of demolished materials. The annual project emissions in 2015 and 2016 (including Building 99 demolition and 60/40 percent reuse and recycle/hauling emissions), and annual project emissions in 2017 through 2024, estimated under Alternative 1, are listed in Table 3.3-5. Annual construction, area and net operational project emissions are included in the annual project emissions, listed in Table 3.3-5.

As shown in Table 3.3-5, the estimated annual project emissions of the non-attainment/maintenance pollutants of VOCs, NO_X, and CO for Alternative 1 in each year from 2015 through 2024 are less than the *de minimis* levels for these pollutants in the SDAB. Therefore, Alternative 1 would conform to the SIP, and a formal conformity determination would not be required. The URBEMIS air emissions modeling output is provided in Appendix B. The General Conformity conclusions of this alternative are documented in the RONA in Appendix B.

As shown in Table 3.3-5, the estimated annual project emissions of nonattainment/maintenance pollutants of VOCs, NO_X, and CO, and the attainment pollutants of SO_X, PM_{10}, and $PM_{2.5,}$ for Alternative 1 in each year from 2015 through 2024 are less than the PSD emissions rate thresholds for these pollutants. Therefore, the NEPA impact would not be significant to air quality.

Table 3.3-5
Estimated Annual Construction and Operational Emissions for Alternative 1 (Preferred Alternative)

	Air Pollutant Emissions (tons/year)					
	VOCs	**NO_X**	**CO**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**
Annual Construction Emissions (for each year 2015–2016)	2.03	2.97	2.48	0.04	2.65	0.42
Annual Area Emissions (for each year 2015–2016)	0.19	0.18	0.43	0	0	0
Annual Operational Emissions (for each year 2015–2016)	0.42	0.85	3.31	0	0.06	0.04
Annual Alternative 1 Emissions (for each year 2015–2016)	**2.64**	**3.90**	**6.22**	**0.04**	**2.71**	**0.46**
Annual Construction Emissions (for each year 2017–2024)	2.02	2.86	2.44	0.04	2.37	0.37
Annual Area Emissions (for each year 2017–2024)	0.19	0,18	0.43	0	0	0
Annual Operational Emissions (for each year 2017–2024)	0.42	0.85	3.31	0	0.06	0.04
Annual Alternative 1 Emissions (for each year 2017–2024)	**2.63**	**3.89**	**6.18**	**0.04**	**2.43**	**0.41**
General Conformity Thresholds	*100*	*100*	*100*	*NA*	*NA*	*NA*
PSD Emission Rate Thresholds	*250*	*250*	*250*	*250*	*250*	*250*
Exceed thresholds each year?	No	No	No	No	No	No

Totals rounded to the nearest whole number.

Mitigation Measures/Impact Avoidance and Minimization Measures

Mitigation Measures

No mitigation measures are proposed.

Impact Avoidance and Minimization Measures

To control fugitive dust and exhaust emissions and to minimize the project emissions of dust and particulates during demolition, grading and earthwork operations, and construction, the Navy would:

- Implement best available control measures (BACM) in accordance with OPNAVINST 5090.1D, and applicable state (i.e., APCD) regulations.
- Water all active construction areas at least twice daily.
- Cover all trucks hauling soil, sand, and other loose materials, or require all trucks to maintain at least 2 feet of freeboard.

- Pave, apply water twice daily, or apply (nontoxic) soil stabilizers on all unpaved access roads, parking areas, and staging areas at construction sites.
- Sweep streets daily (with water sweepers) if visible soil material is carried onto adjacent paved streets.
- Prepare a detailed demolition plan to identify measures to break up, reuse to the maximum extent practical, and haul away the debris from the demolition of Building 99 and other structures.
- Limit idling of heavy equipment to less than 5 minutes and verify through unscheduled inspections.
- Maintain and tune engines per manufacturer's specifications to perform at CARB and/or USEPA certification levels, prevent tampering, and conduct unscheduled inspections to ensure these measures are followed.
- If practicable, lease new, clean equipment meeting the most stringent of applicable Federal or state standards. In general, commit to the best available emissions control technology. Tier 4 engines should be used for project construction equipment to the maximum extent feasible.
- Lacking availability of non-road construction equipment that meets Tier 4 engine standards, commit to using CARB and USEPA-verified particulate traps, oxidation catalysts, and other appropriate controls where suitable to reduce emissions of diesel PM and other pollutants at the construction site.
- Consider alternative fuels such as natural gas and electricity (plug-in or battery).

Appropriate abatement measures would also be implemented if asbestos-containing building materials or lead-based paint is determined to be present in the existing structures, including Building 99 that would be demolished at SSTC-South under Alternative 1.

3.3.2.4 Alternative 2 – SSTC-South Bunker Retention Alternative

Impacts

The development of Alternative 2 is similar to Alternative 1, with the same number and type of MILCONs; however, Building 99 would not be demolished under this alternative. Demolition of other existing structures/buildings would be completed in compliance with a detailed demolition plan and abatement plan. Demolition materials would be recycled (60 percent) and hauled (40 percent). Documentation would be prepared and submitted to APCD (i.e., Notice of Intent) with prior coordination and approval by NBC Environmental Management. Implementation of Alternative 2 would generate annual air pollutant emissions, listed in Table 3.3-6, similar to the annual project emissions of Alternative 1 with minor increases in area and operational emissions each year from previous years (2015 through 2024). For 2015 through 2016, Alternative 2 emissions would be slightly less than those of Alternative 1 due to retention of Building 99.

Table 3.3-6
Estimated Annual Construction and Operational Emissions for Alternative 2

	Air Pollutant Emissions (tons/year)					
	VOCs	**NO_X**	**CO**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**
Annual Construction Emissions (for each year 2015–2024)	1.99	2.62	2.37	0.04	1.30	0.37
Annual Area Emissions (for each year 2015–2024)	0.19	0,18	0.43	0	0	0
Annual Operational Emissions (for each year 2015–2024)	0.42	0.85	3.31	0	0.06	0.04
Annual Alternative 2 Emissions (for each year 2015–2024)	**2.60**	**3.65**	**6.11**	**0.04**	**1.36**	**0.41**
General Conformity Thresholds	*100*	*100*	*100*	*NA*	*NA*	*NA*
PSD Emission Rate Thresholds	*250*	*250*	*250*	*250*	*250*	*250*
Exceed thresholds each year?	No	No	No	No	No	No

Totals rounded to the nearest whole number.

As shown in Table 3.3-6, the estimated annual project emissions of the nonattainment/ maintenance pollutants of VOCs, NO_X, and CO for each year from 2015 through 2024 for Alternative 2 would be less than the *de minimis* levels for these pollutants in the SDAB. Therefore, Alternative 2 would conform to the SIP, and a formal conformity determination would not be required. The General Conformity conclusions of this project are documented in the RONA in Appendix B.

As shown in Table 3.3-6, the estimated annual project emissions of the nonattainment/maintenance pollutants of VOCs, NO_X, and CO, and the attainment pollutants of SO_X, PM_{10}, and $PM_{2.5}$, for Alternative 2 in each year from 2015 through 2024, would be less than the PSD emissions rate thresholds for these pollutants. Therefore, the NEPA impact would not be significant to air quality.

Mitigation Measures/Impact Avoidance and Minimization Measures

Mitigation Measures

No mitigation measures are proposed.

Impact Avoidance and Minimization Measures

To control fugitive dust and exhaust emissions and to minimize the project emissions of dust and particulates during demolition, grading and earthwork operations, and construction, the Navy would:

- Implement BACM in accordance with OPNAVINST 5090.1D, and applicable state (i.e., APCD) regulations.
- Water all active construction areas at least twice daily.
- Cover all trucks hauling soil, sand, and other loose materials, or require all trucks to maintain at least 2 feet of freeboard.
- Pave, apply water twice daily, or apply (nontoxic) soil stabilizers on all unpaved access roads, parking areas, and staging areas at construction sites.

- Sweep streets daily (with water sweepers) if visible soil material is carried onto adjacent paved streets.
- Prepare a detailed demolition plan to identify measures to break up, reuse to the maximum extent practical, and haul away the debris from the demolition of existing structures in the Alternative 2 footprint.
- Limit idling of heavy equipment to less than 5 minutes and verify through unscheduled inspections.
- Maintain and tune engines per manufacturer's specifications to perform at CARB and/or USEPA certification levels, prevent tampering, and conduct unscheduled inspections to ensure these measures are followed.
- If practical, lease new, clean equipment meeting the most stringent of applicable Federal or state standards. In general, commit to the best available emissions control technology. Tier 4 engines should be used for project construction equipment to the maximum extent feasible.
- Lacking availability of non-road construction equipment that meets Tier 4 engine standards, commit to using CARB and USEPA-verified particulate traps, oxidation catalysts and other appropriate controls where suitable to reduce emissions of diesel PM and other pollutants at the construction site.
- Consider alternative fuels such as natural gas and electricity (plug-in or battery).

Appropriate abatement measures would also be implemented if asbestos-containing building materials or lead-based paint is determined to be present in the existing structures that would be demolished at SSTC-South under Alternative 2.

3.3.2.5 Alternative 3 – Multi-Installation Alternative

Impacts

Alternative 3 would include the same 24 MILCONs as Alternative 1; however, three of the MILCONs and a portion of a fourth would be constructed on other installations (i.e., NAB Coronado and NASNI). All the other MILCONs would be constructed generally within the same SSTC-South footprint as Alternative 1. Demolition of some existing facilities would occur at SSTC-South (up to 20 structures) and at NAB Coronado (up to 10 structures). Demolition materials would be recycled (60 percent) and hauled (40 percent). Building 99 would be retained under Alternative 3 similar to Alternative 2. All three installations (SSTC-South, NAB Coronado, and NASNI) along with the off-site infrastructure improvements are within the SDAB.

Implementation of Alternative 3 would generate air pollutant emissions similar to Alternative 2. Therefore, Alternative 3 would be similar to the annual emissions listed in Table 3.3-5 for Alternative 2.

As shown in Table 3.3-5, the estimated annual project emissions of nonattainment/maintenance pollutant emissions of VOCs, NO_X, and CO in each year from 2015 through 2024 would be less than the *de minimis* levels for these pollutants in the SDAB. Therefore, Alternative 3 emissions would also have less than *de minimis* levels for these pollutants and, therefore, would conform to the SIP and a formal

conformity determination would not be required. The General Conformity conclusions of this project are documented in the RONA in Appendix B.

As shown in Table 3.3-5, the estimated annual project emissions of the nonattainment/maintenance pollutants of VOCs, NO_X, and CO, and the attainment pollutants of SO_X, PM_{10}, and $PM_{2.5,}$ in each year from 2015 through 2024 would be less than the PSD emissions rate thresholds for these pollutants. Therefore, the NEPA impact would not be significant to air quality.

Mitigation Measures/Impact Avoidance and Minimization Measures

Mitigation Measures

No mitigation measures are proposed.

Impact Avoidance and Minimization Measures

To control fugitive dust and exhaust emissions, the Navy would implement BACM in accordance with OPNAVINST 5090.1D, and applicable state (i.e., APCD) regulations. To minimize project construction emissions of dust and particulates during demolition, grading and earthwork operations, and construction, the fugitive dust reduction measures would be the same as discussed for Alternative 2.

3.3.2.6 Unavoidable Adverse Environmental Effects

No unavoidable adverse environmental impacts to air quality during construction or operation of the Proposed Action are expected.

3.3.3 Summary of Effects

Table 3.3-7 summarizes the effects of the No Action Alternative and the three action alternatives on air quality.

Table 3.3-7
Summary of Air Quality Effects

Alternative	Effects	Mitigation Measures/Impact Avoidance and Minimization Measures
No Action Alternative	No new construction or operational pollutant emissions sources would be generated; therefore, local and regional air quality would not be affected.	Mitigation Measures: None Impact Avoidance and Minimization Measures: None
Alternative 1 – SSTC-South Bunker Demolition Alternative (Preferred Alternative)	Under Alternative 1, annual emissions of nonattainment/maintenance pollutants would be less than *de minimis* levels in the SDAB. Therefore, Alternative 1 would conform to the SIP, and a formal	Mitigation Measures: None Impact Avoidance and Minimization Measures: To control fugitive dust and exhaust

Alternative	Effects	Mitigation Measures/Impact Avoidance and Minimization Measures
	conformity determination would not be required. The estimated annual project emissions of all pollutants (VOCs, NO_X, CO, SO_X, PM_{10}, and $PM_{2.5}$), for Alternative 1 from 2015 through 2024 would be less than the PSD emission rate thresholds for these pollutants. Therefore, the NEPA impact would not be significant.	emissions and to minimize dust during demolition, grading and earthwork operations, and construction: • Implement best available control measures (BACM) in accordance with OPNAVINST 5090.1D, and applicable state (i.e., APCD) regulations. • Water all active construction areas at least twice daily. • Cover all trucks hauling soil, sand, and other loose materials, or require all trucks to maintain at least 2 feet of freeboard. • Pave, apply water twice daily, or apply (nontoxic) soil stabilizers on all unpaved access roads, parking areas, and staging areas at construction sites. • Sweep streets daily (with water sweepers) if visible soil material is carried onto adjacent paved streets. • Prepare a detailed demolition plan to identify measures to break up, reuse to the maximum extent practical, and haul away the debris from the demolition of Building 99 and other structures. • Incorporate abatement measures if asbestos-containing building materials or lead-based paint is determined to be present during demolition.
Alternative 2 – SSTC-South Bunker Retention Alternative	Under Alternative 2, annual emissions of the nonattainment/maintenance pollutants would be less than *de minimis* levels in the SDAB. Therefore, Alternative 2 would conform to the SIP, and a formal conformity determination would not be required. The estimated annual project emissions of all pollutants (VOCs, NO_X, CO, SO_X, PM_{10}, and $PM_{2.5}$), for Alternative 2 from 2015 through 2024 would be less than the PSD emission rate thresholds for these pollutants. Therefore, the NEPA impact would not be significant.	<u>Mitigation Measures:</u> None <u>Impact Avoidance and Minimization Measures:</u> To control fugitive dust and exhaust emissions and to minimize dust during demolition, grading and earthwork operations, and construction: • Implement BACM in accordance with OPNAVINST 5090.1D, and applicable state (i.e., APCD) regulations. • Water all active construction areas at least twice daily. • Cover all trucks hauling soil,

Alternative	Effects	Mitigation Measures/Impact Avoidance and Minimization Measures
		sand, and other loose materials, or require all trucks to maintain at least 2 feet of freeboard. • Pave, apply water twice daily, or apply (nontoxic) soil stabilizers on all unpaved access roads, parking areas, and staging areas at construction sites. • Sweep streets daily (with water sweepers) if visible soil material is carried onto adjacent paved streets. • Prepare a detailed demolition plan to identify measures to break up, reuse to the maximum extent practical, and haul away the debris from the demolition of structures. • Incorporate abatement measures if asbestos-containing building materials or lead-based paint is determined to be present during demolition.
Alternative 3 – Multi-Installation Alternative	Under Alternative 3, annual emissions of the nonattainment/maintenance pollutants would be less than *de minimis* levels in the SDAB. Therefore, Alternative 3 would conform to the SIP, and a formal conformity determination would not be required. The estimated annual project emissions of all pollutants (VOCs, NO_X, CO, SO_X, PM_{10}, and $PM_{2.5}$), for Alternative 3 from 2015 through 2024 would be less than the PSD emission rate thresholds for these pollutants. Therefore, the NEPA impact would not be significant.	Mitigation Measures: None Impact Avoidance and Minimization Measures: To control fugitive dust and exhaust emissions and to minimize dust during demolition, grading and earthwork operations, and construction, the measures proposed for Alternative 2 would also apply to Alternative 3.

3.4 HAZARDOUS MATERIALS AND WASTE

3.4.1 Affected Environment

This section describes hazardous materials used and waste generated at SSTC-South, NAB Coronado, and NASNI. Most of hazardous materials and waste are associated with vessels, ordnance, or other materials used on SSTC-South, NAB Coronado, and NASNI; if released into the environment, hazardous materials and waste could pose a hazard to human health or the environment.

Hazardous materials are solid, liquid, semisolid, or gaseous chemical substances that are procured for specific uses, such as for vehicle operation. These chemical substances may pose a hazard to human health or the environment. In general, these materials pose hazards because of their quantity, concentration, or physical or chemical characteristics.

Hazardous wastes are solid wastes (i.e., used or expended materials for which no further use is possible or intended). Hazardous wastes may be generated through the use of hazardous materials that retain their hazardous character, or through the use of non-hazardous materials in a manner that imparts one or more hazardous characteristics to the waste. A hazardous waste may be a solid, liquid, semisolid, or gaseous material that, alone or in combination with other substances, may cause or significantly contribute to an increase in mortality or an increase in serious irreversible or incapacitating reversible illness, or pose a substantial present or potential hazard to humans or the environment when improperly treated, stored, transported, disposed of, or otherwise managed. Hazardous wastes are generally regulated and typically handled separately from hazardous materials.

3.4.1.1 Region of Influence

The ROI for hazardous materials is the area where these materials are used or stored for the Proposed Action at SSTC-South, NAB Coronado, and NASNI. The ROI for hazardous wastes includes SSTC-South, NAB Coronado, and NASNI where the wastes are generated and the storage, transportation, and disposal facilities where the hazardous wastes are managed.

3.4.1.2 Plans and Policies

Different hazardous substances, waste, and materials are regulated in a variety of ways. This section describes the regulatory setting for general hazardous waste materials, explosives-related issues, asbestos, underground storage tanks (USTs), and the Installation Restoration Program (IRP).

Regulatory Framework

Hazardous materials and waste are regulated by Federal laws and regulations. The relevant laws to the Proposed Action include the Resource Conservation and Recovery Act (RCRA) (42 U.S.C. § 6901 et seq.), the Hazardous Materials Transportation Act (HMTA) (49 U.S.C. § 5101 et seq.), the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (42 U.S.C. § 9601 et seq.), the Emergency Planning and Community Right to Know Act (EPCRA) (42 U.S.C. §§ 11,001–11,050), the Oil Pollution Act (OPA) (33 U.S.C. § 2701 et seq.), the Toxic Substances Control Act (TSCA), and the Pollution Prevention Act (PPA) of 1990 (42 U.S.C. Chapter 133). Comprehensively, the regulations adopted to implement these laws govern the storage, use, and transportation of hazardous

materials and waste from their origin to their ultimate disposal. The recovery and cleanup of environmental contamination resulting from accidental releases of these materials are also addressed in the regulations. California laws and regulations generally implement Federal requirements, but broaden their application or impose additional regulatory requirements in some areas.

NASNI was instituted in the IRP in 1980. On 18 November 1980, the Navy Public Works Center (PWC) submitted a Part A permit application to continue its existing hazardous waste treatment and storage activities at NASNI. In 1982, an Interim Status Document was issued authorizing NASNI to continue operation of its hazardous waste treatment and storage impoundments, tanks, and containers pending completion of the hazardous waste facility permitting process. PWC submitted a Part B permit application in 1984. The California Department of Health Services issued a final Hazardous Waste Facility (HWF) Permit to PWC at NASNI on 21 December 1989. This permit authorized the continued operation of the industrial waste treatment plant and polychlorinated biphenyls (PCB) storage units (Brown and Caldwell 2004).

To satisfy the conditions of the 1984 permit application, a RCRA facility assessment (RFA) was conducted in 1989. As a result of this RFA, 81 solid waste management units (SWMUs) (SWMUs 1 through 81) and three areas of concern (AOCs) (AOCs 1 through 3) were identified at NASNI. SWMUs 1 through 12 were identified as IR Sites 1 through 12. Two additional areas were designated as SWMUs by 1992, which brought the total to 83 SWMUs. In addition to the state HWF Permit issued to the Navy PWC on 21 December 1989, USEPA issued a RCRA HWF Permit to the Navy PWC in 1990. This permit, effective 2 March 1990, incorporated Federal corrective action requirements. The Federal corrective action requirements were deferred to the state for enforcement when California was recertified on 26 May 1999 (Brown and Caldwell 2004).

The corrective action requirements were subsequently deferred to a Corrective Action Order that the California Environmental Protection Agency (CalEPA) Department of Toxic Substances Control (DTSC) issued to NASNI on 30 May 1997. By then, 135 SWMUs and three AOCs had been identified at NASNI. Five additional UST SWMUs were identified after the Corrective Action Order was issued. At the time, 140 SWMUs and three AOCs had been identified at NASNI. These have been organized into 24 operable units (OUs). In May 2002, 10 of the 140 SWMUs were approved for delisting by DTSC. OUs 10 and 23 will be discussed individually below (Brown and Caldwell 2004).

Resource Conservation and Recovery Act

The Solid Waste Disposal Act (Public Law 89-272, 79 Stat. 992) of 1965 was enacted to address solid waste management. Hazardous wastes are defined by RCRA, the 1976 amendment to the Solid Waste Disposal Act, which was further amended by the Hazardous and Solid Waste Amendments of 1984.

RCRA applies only to materials that first meet the regulatory definition of a solid waste. RCRA specifically defines a hazardous waste as a solid waste, or combination of solid wastes, which, because of their quantity, concentration, or physical, chemical, or infectious characteristics, may cause or significantly contribute to an increase in mortality; cause an increase in serious, irreversible, or incapacitating reversible illness; or pose a hazard to human health or the environment when improperly treated, stored, disposed of, or otherwise managed (40 C.F.R. § 261.10). A solid waste is a hazardous waste if it is not excluded from regulation as a hazardous waste in compliance with Section 261.4(b), and it is either a

specifically listed waste or exhibits any ignitable, corrosive, reactive, or toxic characteristics (40 C.F.R. § 261, Subpart C).

Under RCRA, hazardous materials are considered solid wastes, and thus fall under the definition of hazardous wastes, if they are used in a manner constituting disposal, rather than for their intended purpose. Unused military munitions become subject to RCRA when abandoned, removed from munitions storage magazine or other storage area for the purpose of disposal, deteriorated or damaged to the point that they cannot be put into serviceable condition, or has been declared a solid waste by an authorized military official. Used or fired military munitions become subject to RCRA when transported off-range for storage, reclamation, treatment, or disposal; if buried or land filled on- or off-range; or if they land off-range and are not immediately rendered safe or retrieved. Transportation, storage, and disposal of these items are governed by RCRA.

In 1997, USEPA published its Final Military Munitions Rule (MMR) (40 C.F.R. § 266.200-206). The MMR identifies when conventional and chemical military munitions become hazardous wastes in compliance with RCRA, and provides for their safe storage and transport. Under the MMR, military munitions include the following items:

- Confined gaseous, liquid, and solid propellants;
- Explosives;
- Pyrotechnics;
- Chemical and riot agents; and
- Smoke canisters.

The MMR defines training; research, development, test, and evaluation; and clearance of UXO and munitions fragments on active or inactive ranges as normal uses of the product. When military munitions are used for their intended purpose, they are not considered to be a solid waste for regulatory purposes. Under the MMR, wholly inert items and nonmunitions training materials are not defined as military munitions. These materials are not excluded from regulation as wastes in compliance with RCRA.

The Federal Facilities Compliance Act of 1992 amended RCRA to ensure a complete and unambiguous waiver of sovereign immunity with regard to administrative fines and penalties on Federal facilities. In compliance with the Federal Facilities Compliance Act, Navy facilities are required to comply with state waste substantive and procedural requirements, including obtaining state permits.

Hazardous Materials Transportation Act

For air, sea, and land transportation, the U.S. Department of Transportation defines a hazardous material as a substance or material that is capable of posing an unreasonable risk to health, safety, and property when transported in commerce (49 U.S.C. § 5101, et seq.; 49 C.F.R. § 172.101, Appendix B). The HMTA regulates the transportation of hazardous materials, including ordnance.

Comprehensive Environmental Response, Compensation, and Liability Act

Under CERCLA Section 101 (14), as amended by the Superfund Amendments and Reauthorization Act, a hazardous substance is defined as any substance that, due to its quantity, concentration, or physical

and chemical characteristics, poses a potential hazard to human health and safety or to the environment. CERCLA established national policies and procedures to identify and clean-up sites contaminated in the past by hazardous substances. The Navy implements cleanup of CERCLA sites through the IRP.

The migration of hazardous substances from historical waste deposits can pose a risk to public health. The IRP was developed to identify, assess, characterize, and clean up or control contamination from past hazardous waste disposal operations and hazardous materials spills at DoD facilities. The IRP is intended to be a tool for identifying and cleaning up any contaminant releases that could endanger public health, welfare, or the environment.

The IRP process has three phases. Phase I, Site Inspection, includes identifying potential hazardous waste sites through interviews, record searches, and minimal sampling. Phase II, Remedial Investigation/Feasibility Study, includes sampling and remediation design planning. Phase III, Remedial Design/Remedial Action, involves remediating or securing the site. IRP sites on SSTC-South, NAB Coronado, and NASNI are addressed in Section 3.4.1.3 below (U.S. Navy 2011b).

Emergency Planning and Community Right to Know Act

Section 203 of EO 13148 (Right-to-Know and Pollution Prevention) states that “through timely planning and reporting under the EPCRA, Federal facilities shall be leaders and responsible members of their communities.” Thus, a Federal agency reports its use of hazardous and toxic chemicals in accordance with the EPCRA. Access to this information contributes to improvements in chemical safety and protection of local communities. The guidance for Federal facilities has been incorporated into OPNAVINST 5090.1. For each installation, the Navy annually submits EPCRA 312, Tier II forms to the emergency responders (Fed Fire) and the San Diego County Certified Unified Program Agency (CUPA), and the EPCRA 313 Toxic Release Inventory Form R to USEPA, with courtesy copies to CalEPA and the Regional Water Quality Control Board (RWQCB).

Oil Pollution Act

The OPA requires oil storage facilities and vessels to submit plans to the Federal government describing how they will respond to large, unplanned releases. In 2002, the OPA was amended by the Oil Pollution Prevention and Response; Non-Transportation-Related Onshore and Offshore Facilities; Final Rule (40 C.F.R. Part § 112). This rule requires Spill Prevention, Control, and Countermeasure (SPCC) Plans and Facility Response Plans. These plans outline the requirements to plan for and respond to oil and hazardous substance releases. Oil and hazardous substance releases are reported and remediated in accordance with current Navy policy. NAB Coronado has an SPCC Plan; however, SSTC-South does not store sufficient quantities of oil to require coverage under the plan (U.S. Navy 2011b).

Toxic Substances Control Act (TSCA)

The TSCA establishes restrictions on, and requires reporting, record-keeping, and testing of, chemical substances and mixtures. The TSCA also addresses the use and disposal of specific chemicals, such as asbestos and lead-based paint. In general, the TSCA limits the manufacture, distribution, use, and disposal of chemical substances that pose a threat to human health. At one time, asbestos was commonly included in building materials such as concrete, masonry, caulks, flooring and ceiling tiles, and mastics; and lead was often used in exterior paints.

Pollution Prevention Act of 1990 (PPA)

The PPA focuses on pollution source reduction, as well as reducing pollution through changes in production, operation, and use of raw materials. The PPA addresses other practices that increase efficiency in the use of natural resources or protect natural resources through conservation (U.S. Navy 2011b).

Range Sustainability Environmental Program Assessment (RSEPA)

The RSEPA is an internal Navy program that was developed to provide a consistent approach for assessing the environmental condition of operational ranges. The RSEPA is a range compliance management process to ensure long-term sustainability using a phased approach to assessment. The RSEPA process is applied to all operational test and training ranges within the U.S. and its territories where munitions are or were used. The RSEPA process systematically assesses the present environmental compliance conditions and ensures that BMPs are in place so that operational test and training ranges are not posing a significant off-site risk to human health or the environment (U.S. Navy 2011b).

State Laws and Regulations

CalEPA develops, implements, and enforces the state's environmental protection laws that ensure clean air, clean water, clean soil, safe pesticides, and waste recycling and reduction. CalEPA is composed of several agencies, boards, departments, and offices, with no single entity having sole authority for hazardous materials and waste. Within CalEPA, DTSC is responsible for the use, storage, transport, and disposal of hazardous materials. DTSC regulates hazardous waste, pollution prevention, and cleanup of contamination. However, CalEPA delegates much of its responsibility for hazardous materials management to local governments under the CUPA program.

Local governments and communities form CUPAs to effectively manage the acquisition, maintenance, and control of hazardous materials in their jurisdictions, and to avoid overlapping roles among Federal, state, and local agencies. In Southern California, CUPAs have typically formed on a county-by-county basis. In San Diego County, the CUPA is the San Diego Department of Environmental Health, which is responsible for hazardous materials and hazardous waste regulation. State hazardous materials and hazardous waste laws are summarized in Table 3.4-1 (U.S. Navy 2011b).

Table 3.4-1
State of California Laws

Law/Regulation	Description
Hazardous Materials Release Response Plans and Inventory Act (6.95 Health and Safety Code [HSC])/19 California Code of Regulations (C.C.R.), Division 2, Chapter 4	Requires facilities using hazardous materials to prepare hazardous materials business plans and establishes the California Accidental Release Prevention Program
Hazardous Waste Control Act (6.5 HSC/22 C.C.R., Division 4.5)	Regulates the generation, transportation, storage, treatment, and disposal of hazardous waste
Safe Drinking Water and Toxic Enforcement Act (Proposition 65; 6.6 HSC/22 C.C.R., Division 4)	Regulates the discharge of contaminants to groundwater

The Navy complies with applicable state regulations under EO 13148, Greening the Government Through Leadership in Environmental Management; DoD Directive 4165.60, Solid Waste Management; and Navy guidelines for hazardous materials and waste management found in OPNAVINST 5090.1D (10 January 2014).

Underground Storage Tanks

UST sites in California are regulated under California Code of Regulations (C.C.R.) Title 23, which was established to protect waters of the state from discharges of hazardous substances from USTs. These regulations establish construction standards for new USTs; monitoring standards for new and existing USTs; procedures for unauthorized release reporting; repair, upgrade, and closure requirements for existing USTs; and remedial action requirements. Federal regulations concerning USTs are contained in 40 C.F.R. §§ 280, 281, and 282.50–282.105, where information like general operating requirements, release detection, out-of-service UST systems and closure, purpose, general requirements and scope, general provisions, and others can be found. In June 1996, the San Diego RWQCB issued a letter informing the Navy that the RWQCB would provide oversight for all Environmental Restoration, Navy-funded leaking UST sites at SSTC-South, NAB Coronado, and a portion of SSTC-North, effective 1 July 1996. Prior to this, the San Diego RWQCB maintained a contract that funded regulatory oversight provided by the San Diego County Site Assessment and Mitigation Program for Environmental Restoration, Navy-funded UST sites at NAB Coronado (BNI 2002). At NASNI, 140 SWMUs were identified; 52 are USTs regulated under RCRA. NASNI manages these USTs (Brown and Caldwell 2004).

Navy Guidance

Navy guidelines for hazardous materials and waste management are found in the Navy Environmental and Natural Resource Program Manual, OPNAVINST 5090.1D. This Navy policy identifies key statutory and regulatory requirements, and assigns responsibility for the planning and execution of the following programs: (1) IRP; (2) programs for compliance with current laws, regulations, and EOs relative to the protection of the environment, pollution prevention, and the conservation of natural, cultural, and historic resources; and (3) programs that enable the planning and execution of Navy joint and combined operations and training that fully meet operational readiness requirements and Navy environmental objectives.

The Navy policy for hazardous material and waste management as it pertains to occupational health and safety is provided in the Navy Occupational Safety and Health (NAVOSH) Program Manual Reference (OPNAVINST 5100.23). The chapters of this guidance that specifically apply to hazardous materials and waste are Chapter 7, Hazardous Material Control and Management; Chapter 17, Asbestos Control; Chapter 21, Lead; and Chapter 25, Polychlorinated Biphenyls (PCBs).

3.4.1.3 Existing Conditions

Hazardous Materials Management

According to the Navy's Waste Management Plan for Navy Region Southwest, hazardous material business plans and unified facility permits are required for all Navy facilities that store hazardous materials exceeding 200 cubic feet of a compressed gas, 500 pounds of a solid, or 55 gallons of a liquid (U.S. Navy 2007d). These hazardous materials business plans provide guidance and direction on the

use, storage, and compliance activities for hazardous materials. Adherence to approved plans ensures that hazardous materials used for training are properly managed.

Hazardous Materials Transport

Transport on public roads of dangerous substances (e.g., hazardous materials and nonfused munitions) is controlled and regulated by the U.S. Department of Transportation (49 C.F.R. § 177). The state enforces Federal transportation safety regulations within its jurisdiction. Generally, munitions and other dangerous articles may be transported on public highways if proper safety procedures are followed. Bulk hazardous material loads are prohibited from using Coronado Bridge, so hazardous materials for NBC must be transported from I-5 via Imperial Beach on SR-75 to I-5 (U.S. Navy 2011b).

Hazardous Materials Use

Hazardous materials currently used in support of physical aspects of SSTC-South activities include petroleum products, coolants, cleaning compounds, batteries, explosives, and pyrotechnic materials. Most of the hazardous materials used at SSTC-South are stored in the Hazardous Material Minimization Center at NBC. Ordnance is stored in Ready Service Lockers.

Training activities involve numerous vehicles, aircraft, ships, boats, and support craft. These vessels do not intentionally release any hazardous constituents. However, small amounts of diesel fuel or engine oil may leak onto the ground or into the water.

Hazardous Waste Management

NAB Coronado is a large-quantity generator and transporter of hazardous waste in compliance with RCRA (USEPA RCRA Identification Number CA9170023130). NAB Coronado was last inspected by the San Diego CUPA in January 2008; at that time, NAB Coronado was found to be in compliance with general generator requirements (USEPA 2009a). SSTC-South activities generate hazardous wastes primarily through operation of vehicles and equipment required for training. These waste streams include used batteries, spill cleanup materials, and used petroleum products. Additionally, universal wastes (e.g., batteries, light bulbs) are generated at SSTC-South from the routine operation/maintenance of facilities. Commander, Navy Region Southwest prepared a Hazardous Waste Management Plan (U.S. Navy 2007d) and a Regional Explosive Hazardous Waste Management Plan (U.S. Navy 2004) for Navy facilities in the San Diego region. These plans provide comprehensive and consistent guidance to personnel at SSTC-South for characterization, storage, disposal, and record-keeping of RCRA and non-RCRA waste.

There are several satellite accumulation areas and one 90-day accumulation area at SSTC-South. Hazardous waste is collected from the 90-day accumulation area and transported by a Defense Reutilization and Marketing Office contractor to an approved treatment, storage, or disposal facility (U.S. Navy 2011b).

CERCLA Sites

The initial assessment study for NAB Coronado, part of SSTC-North, and NASNI was the first major environmental investigation of the NAB Coronado facility and NASNI. The purpose of the initial

assessment study was to identify and assess sites posing a potential threat to human health or the environment due to contamination from past operations that used hazardous materials. The initial assessment study identified five potentially contaminated sites (IR Sites 1 through 5) at NAB Coronado; the study recommended two of these sites (IR Sites 2 and 4) for further investigation. IR Site 6 was added to the IRP at NAB Coronado in 1995 (BNI 2002). Two sites (IR Sites 10 and 11) were identified at SSTC-South (BNI 2002). Twelve sites (IR Sites 1 through 12) were identified at NASNI (Brown and Caldwell 2004). The following IR Sites will be discussed individually for each base: IR Sites 10 and 11 for SSTC-South, IR Sites 1 through 4 for NAB Coronado, and IR Site 10 for NASNI (Figure 3.4-1).

SSTC-South

- IR Site 10 (rubble disposal area) is located in SSTC-South along a dirt road, roughly northeast of the Wullenweber Array (Figure 3.4-1). This site appears to be an old disposal area used exclusively for rubble and demolition debris. Some old drums and containers were found at the site at the time of the initial assessment study. However, they appeared to be empty when they were discarded. The rubble area was heavily overgrown with vegetation, and no evidence of any hazardous materials being disposed in the area was found during the initial assessment study. Since no evidence could be found during the study to suggest that materials other than rubble were disposed of at the site, no further action was warranted. In addition, SSTC-South, historically, has not required the use or generation of any materials that would be considered hazardous. Therefore, a confirmation study was not recommended for IR Site 10 (SCS 1986). IR Site 10 was granted No Further Action by the San Diego RWQCB (RWQCB 2009a).

- IR Site 11 is located in SSTC-South and was discovered after personnel complained that a red dust was depositing on their uniforms during training activities, which included close contact with the ground for several hours (Figure 3.4-1). The command safety officer requested that Bunker 100 and associated concrete pad areas be inspected and characterized. Two separate sampling events for asbestos occurred on IR Site 11 in July 2009. The Navy has since suspended all activities at IR Site 11 because analytical results of floor tiles collected during two separate sampling events revealed chrysotile asbestos concentrations ranging from 4 percent to 15 percent (ECS/CDM 2010) associated with red floor tiles. The concrete pads with red floor tiles are located in areas where the Navy plans to continue training activities.

- Guidance for addressing and investigating asbestos-contaminated sites was developed by USEPA. It was estimated that approximately 11 acres at IR Site 11, including concrete pads and surrounding soils, were impacted by the asbestos-containing tiles. The widespread contamination throughout the site posed a potential current and/or future threat to human health due to the risk of inhalation of asbestos fibers that have been released to the environment. A removal action has been completed at the site to minimize or eliminate the potential risk of adverse health effects (ECS/CDM 2010). The IR Site 11 removal action was completed in November 2010. The closeout report recommended No Further Action for the site and it has been closed (RWQCB 2013). The Naval Medical Center concurred that training can resume (Pound 2012).

- Building 99 is proposed for demolition as part of Alternative 1. Building 99 was evaluated for asbestos-containing building materials and lead-based paint in November 2013 (Aurora Industrial Hygiene 2013). Asbestos at greater than 1 percent was found in the mastic and floor tiles in several of the rooms in Building 99. Lead-based paint was also found throughout the building.

Source: ESRI 2013

1.5 0.75 0 1.5 Miles

Scale: 1:95,040; 1 inch = 1.5 miles

Figure 3.4-1
IR Sites in Proximity to the Proposed Action Alternatives

Path: P:\2011\60236207\06GIS\6.3_Layout\EIS\November_2014\fig3_4_1_IRSites.mxd, 11/24/2014, SorensenJ

NAB Coronado

- IR Site 1 (Building 603 disposal pit) is located along the oceanside shore on the northwestern corner of NAB Coronado between the Pacific Ocean and SR-75 in the vicinity of the Naval Exchange "Surf Mart" (Figure 3.4-1). IR Site 1 includes four areas of concern: the Building 603 Disposal Pit, the former vehicle maintenance pits, and Areas 1 and 2. From 1969 to 1982, an estimated 1,100 to 3,800 gallons of waste lubrication oils, paint wastes, and thinners was discharged to inside floor drains in Building 603. The floor drains emptied into an outside sandpit located approximately 60 feet north of the building. The disposal pit was approximately 15 feet long and 2 to 3 feet deep. The former vehicle maintenance pits were located approximately 90 feet northwest of Building 603. Duration of activities and estimated volumes of wastes disposed at this site are unknown (BNI 2002).

  The locations of the Building 603 Disposal Pit, the former vehicle maintenance pits, and Area 1 are currently paved parking areas. These parking areas are used to capacity during the normal workweek. Area 2 is designated critical habitat for the western snowy plover. Recommendations for IR Site 1 are the following: Evaluate whether the site meets the petroleum-exclusion criteria under CERCLA. If these criteria are met, then recommend the site be removed from the IR Program (BNI 2002). The current status of IR Site 1 is No Further Action (U.S. Navy 2011b).

- IR Site 2 (Old Refuse Disposal and Burn Area) is located near the bayside shore of NAB Coronado and overlaps geographically with IR Site 4 (Figure 3.4-1). This site was used as a burn and disposal area from the mid-1940s to the early 1970s. Waste identified as disposed of or burned at this site includes waste motor oils, solvents, and possibly small arms ammunition. The total volume of the disposal area is approximately 40,000 cubic yards. The surface of the filled areas is covered with asphalt. The IAS Report estimated that approximately 120,000 gallons of hazardous waste could have been transported to the site for disposal or burning. In the mid-1970s, Navy divers uncovered rusty drums around the disposal area, and seeps of oily substance rising to the surface offshore of the site were occasionally observed (BNI 2002).

  The Navy conducted a screening-level ecological risk assessment for the NAB Coronado shoreline sediments. The results of the screening-level ecological risk assessment indicated that further action is warranted. Evaluation of metals background for NAB Coronado soil and groundwater is ongoing. An evaluation of the existing NAB Coronado metals data for background was conducted in 2001 (BNI 2002). A further investigation is being conducted for IR Site 2 (U.S. Navy 2011b).

- IR Site 3 (New Paint Shop Site) is located near the northern boundary of NAB Coronado (Figure 3.4-1). In June 1985, a lens of petroleum fuel, later identified as fuel oil or diesel fuel, was uncovered during excavation operations for a new paint shop north of Building 103. Between the mid-1950s to the early 1980s, a half-buried 55-gallon drum with holes at the bottom was used for disposal of waste materials, including diesel fuel and solvents from the fueling facility and PWC shops. Approximately 200 gallons per year of waste materials was disposed in the drum. During the 2 May 2002 site visit, paved areas and buildings largely covered IR Site 3. A seawall and a fuel pier were located along the shoreline (BNI 2002).

The Navy issued the "Draft Remedial Investigation Report for IR Site 2/4 and Extended Site Inspection Report for Area Offshore of IR Site 3" in December 2008 to DTSC. The Extended Site Inspection (ESI) Report for Area Offshore of IR Site 3 (ESI Report) characterized the offshore sediments and assessed potential human health and ecological risks. To address regulatory comments, the Navy issued a Technical Memorandum titled "NAB Coronado Screening Data Quality Assessment, History of IR Site 2/4, and IR Site 3 ESI Refinement" in November 2011. DTSC concurs with the Navy's recommendation of no further action for the offshore area of IR Site 3 (DTSC 2012). Further investigation is being conducted for IR Site 3 under the RWQCB (U.S. Navy 2011b).

- IR Site 4 (Sandblast Grit Disposal Area) is located near the bayside shore of main base NAB Coronado and overlaps geographically with IR Site 2 (Figure 3.4-1). The site encompasses approximately 60,000 square feet and was used as a disposal area for sandblast grit and paint wastes from the early 1960s until construction of the current sandblasting facility (Building 350) in 1981. Large piles of sandblast grit were regularly deposited and spread by bulldozers at the site. Paint chips in the grit material consist of lead oxide, zinc chromate, and arsenates. The IAS Report estimates that there could be 200,000 to 600,000 cubic feet of sandblast grit (BNI 2002).

  The Navy conducted a screening-level ecological risk assessment for the NAB Coronado shoreline sediments. The results of the screening-level ecological risk assessment indicated that further action is warranted. Evaluation of metals background for NAB Coronado soil and groundwater is ongoing. An evaluation of the existing NAB Coronado metals data for background was conducted in 2001 (BNI 2002). Further investigation is being conducted for IR Site 4 (U.S. Navy 2011b).

NASNI

- IR Site 10 (Property Disposal Area) is located at the west side of NASNI in the vicinity of Building 805. IR Site 10 consists of approximately 22 acres and is identified as OU-10 at NASNI (Figure 3.4-1). This site has been identified as an area of hazardous waste contamination. This site was used from the early 1940s to the 1950s for military salvage operations principally related to aircraft dismantling. Information obtained from records searches and from interviews indicated that hazardous materials were disposed to unpaved areas over the period of site use. Approximately 2,800 gallons of waste oil and solvents; 5,000 to 25,000 gallons of spillage and leakage from miscellaneous drummed chemicals, including battery acid; and 3,500 gallons of transformer fluid, some containing PCBs, have been disposed at the site (Brown and Caldwell 1983).

  A PCB time-critical removal action (TCRA) was conducted in 1998. Excavated PCB-contaminated soil was transported to IR Site 4 for treatment and consolidation. The TCRA closure report was completed in 1999. Approximately 20,000 cubic yards of low-level radioactive waste (LLRW)-contaminated slag and sediment was containerized in bins and disposed at an approved, permitted disposal facility. Riprap was placed along the shoreline to prevent erosion and stabilize the slope. The emergency removal action for LLRW-contaminated slag and sediment was completed in 1995. The closeout report for the emergency removal action was completed in 1996. A non-time-critical removal action (NTCRA) was planned to address heavy metals in the bluff above the shoreline. The NTCRA consolidated the slag wastes into one part of IR Site 10,

installed an engineered evapotranspiration cover to contain remaining metals-contaminated slag waste, constructed a rock revetment, constructed a vegetative cover designed to control water infiltration, and installed groundwater monitoring wells. An Engineering Evaluation/Cost Analysis and a Removal Action Plan for the shoreline slag were completed in 2002. An Action Memorandum, a Technical Memorandum of the Basis of Design for monolithic Soil Cover, a Draft Dune restoration Plan, and Draft Biological Resources Survey report were completed in 2003 (Brown and Caldwell 2004). The removal action was completed in April 2005 (Shaw 2007). Further actions are still being conducted for IR Site 10 (U.S. Navy 2011b).

Underground Storage Tank Sites

In 1993, 75 USTs were removed from SSTC-South. These USTs had been either used for or intended for storing fuel oil. Nineteen of these USTs had releases, but only two of the releases had impacted groundwater. By 1999, NAVFAC Southwest had received concurrence letters for No Further Action status from the Department of Environmental Health on all 75 removed USTs except USTs 1828 and 1832. In October 2001, San Diego RWQCB concurred with the No Further Action status for USTs 1828 and 1832. Two gasoline USTs (USTs 903 and 904) were never found and were assumed to have been removed. USTs 909 through 912 are 10,000-gallon, vaulted, fuel oil USTs and are currently in place (BNI 2002).

Twenty-six USTs were removed or closed in place at NAB Coronado. These USTs at NAB Coronado had been either used for or intended for storing fuel. Eighteen of these USTs had releases, but only 14 of the releases had impacted the groundwater. By 1995, NAVFAC Southwest had received concurrence letters for No Further Action status from the Department of Environmental Health on all the 26 USTs. Two fuel oil USTs (USTs 1 and 18) were never found and were assumed to have been removed (BNI 2002).

Fifty-two USTs were identified at NASNI. None of the USTs are active and all have been removed or closed in place. Ten of the UST SWMUs were delisted by DTSC, as documented in a letter dated 13 May 2002. This action was pursuant to the Navy's request and based on the information presented and approved by DTSC on 07 December 2001. The 10 UST SWMUs are 84, 87, 88, 89, 96, 112, 117, 123, 139, and 140 (Brown and Caldwell 2004).

DTSC is responsible for final closure concurrence of the NASNI RCRA USTs that contain, or did contain at any time, hazardous wastes or hazardous constituents. Oversight of these UST cases, however, has been handled by the County of San Diego Site Assessment and Mitigation (SAM) Program or the RWQCB, depending on the source of funding (Environmental Restoration, Navy [ER,N] or non-ER,N), with DTSC continuing to review cases for final RCRA corrective action certification. The SAM Program oversees non-ER,N-funded UST work, and the RWQCB oversees ER,N-funded work. Regardless of funding, the SAM Program oversees the UST-removal portion of the case. In addition, if results from samples collected during a UST removal indicate that a release has occurred to groundwater, the RWQCB is responsible for overseeing the case (Brown and Caldwell 2004).

An active Fuel Farm is located in the northwestern portion of NASNI in Coronado, California. The western boundary of the Fuel Farm is situated approximately 130 feet from San Diego Bay. The Fuel Farm is an active fueling facility that receives, stores, and dispenses JP-5 and diesel fuel in support of naval operations on NASNI. In 1992, a free-phase hydrocarbon layer was discovered on groundwater at the Fuel Farm. The free-phase hydrocarbon layer was likely due to historical leaks from USTs and piping systems. Specific source locations and dates of releases are unknown. Leak detection equipment has

been installed; the majority of USTs have been removed; and underground piping has been removed or filled, capped, and closed in place. Initial site characterization activities indicated that 57,000 to 214,000 gallons of free-phase floating fuel existed in the subsurface (RORE 2013b).

In 1994, 17 groundwater monitoring and recovery wells were installed at the Fuel Farm in support of a free-phase hydrocarbon recovery pilot study. During the pilot study, additional site characterization data were collected using a Site Characterization and Analysis Penetrometer System (SCAPS) to better characterize the plume. Based on these data, the range of the volume of free-phase fuel in the subsurface was estimated in a range of 99,000 to 641,000 gallons. In 1997, a full-scale fuel recovery system was installed as part of a corrective action under the RCRA UST program. This system operated continuously from 1997 through February 2005. Over the system's operation, it underwent several optimization events and upgrades, including the addition of vacuum enhanced product recovery (VEPR), skimmer pumps and total-fluid submersible pumps, and installation of additional extraction wells. A total of 116 groundwater monitoring/product recovery wells were eventually installed on-site. Also during the optimization of the full-scale recovery system, a small area containing aviation gasoline was discovered and the system was modified to treat the aviation gasoline. Data collected confirmed that a dissolved-phase plume containing fuel-constituents (e.g., benzene, toluene, ethylbenzene, and xylenes [BTEX]) was present at the Fuel Farm (RORE 2012).

From the inception of product recovery until the system was shut down, more than 280,000 gallons of light, nonaqueous-phase liquid (LNAPL) were recovered. As a result, the thickness and extent of free product were greatly reduced. Also, during operation the percentage of fuel to groundwater recovered steadily decreased from 5.4 percent to 0.17 percent. Consequently, in December 2004, the Navy notified the RWQCB of its intent to temporarily shut down the system and conduct a study to assess plume migration, product rebound, and monitored natural attenuation at the Fuel Farm, which are part of RWQCB criteria for evaluating low-risk fuel contaminated sites. The system was subsequently shut down on 24 February 2005 (RORE 2012).

In the 2012 Site Characterization and Radiocarbon Investigation, by Navy Research Laboratory (NRL), the data gaps identified in the Technology Assessment and Optimization Report have been completed. The LNAPL plume is well delineated and the estimated area and volume of LNAPL in formation have been reduced by an average of 88% from the volume estimated in January 2008 due to evident biodegradation based on the NRL study. Additional LNAPL removal is considered impracticable due to the low well-specific LNAPL recovery rates and the inconsistent location and thickness of observed LNAPL. This indicates the remaining LNAPL in formation is contained in discontinuous pores and not representative of an existing LNAPL plume. No additional remedial actions are warranted and it was recommended that this site be assigned a no further action status (RORE 2012).

3.4.2 Environmental Consequences

This section focuses on each of the Proposed Action alternatives and evaluates the potential impacts of the use and storage of hazardous materials, generation of hazardous wastes, or release of hazardous constituents to the environment.

3.4.2.1 Approach to Analysis

This analysis was completed to evaluate whether the Proposed Action alternatives would increase potential health and safety risks to the public and/or military personnel. Potential health and safety risks could occur through increases in the use or storage of hazardous materials, generation of hazardous wastes, releases of hazardous constituents to the environment, or disturbing existing hazardous waste sites during construction of new facilities. To evaluate the potential impacts, available information was reviewed regarding the historical or current use, storage, and/or migration of hazardous substances, hazardous wastes, and hazardous materials within the Proposed Action footprint.

The significance of potential impacts associated with hazardous materials, constituents, substances, and wastes is based primarily on their characteristics, distribution, transportation, storage, and disposal. Factors used to assess significance include the extent or degree to which implementation of an alternative would substantially increase the human health risk or environmental exposure resulting from the storage, use, transportation, or disposal of these materials and substances. A second measure of significance is whether the use, transportation, storage, or disposal of hazardous items is consistent with the various Federal and state laws regulating these materials. Impact avoidance and minimization measures are included in Section 5.4.

3.4.2.2 No Action Alternative

Impacts

Under the No Action Alternative, no changes to hazardous materials or hazardous wastes use, transport, storage, or disposal would occur. IR Sites 10 and 11 pose minimal risk to human health or the environment under the current operating conditions. No hazardous materials and hazardous wastes impacts would occur under the No Action Alternative.

Mitigation Measures/Impact Avoidance and Minimization Measures

No mitigation measures or impact avoidance and minimization measures are proposed.

3.4.2.3 Alternative 1 – SSTC-South Bunker Demolition Alternative (Preferred Alternative)

Impacts

Hazardous Materials

Under Alternative 1, the amount of hazardous materials used at SSTC-South would increase. Thus, the quantity of hazardous materials transported to SSTC-South along SR-75 and the hazardous materials at SSTC-South would increase. Siting of the proposed fuel dispensing facility within SSTC-South would require the preparation and implementation of a new Hazardous Material Business Plan and securing the necessary permits from San Diego County Department of Environmental Health and San Diego APCD. The storage, dispensing, transportation, and use of fuels at the new facility would be conducted in accordance with all appropriate laws and regulations; consequently, no significant impacts would occur.

Hazardous Wastes

Under Alternative 1, SSTC-South would temporarily increase its production of hazardous waste due to demolition and construction activities. The hazardous waste would include any regulated asbestos-containing materials, lead-based paint, or debris characterized as hazardous waste (e.g., lead waste) from demolition of facilities constructed prior to 1978 and in particular for Building 99. One of the initial components of project development under Alternative 1 would be the demolition of Building 99. This above and below ground structure includes approximately 49,900 cubic yards of demolition materials. The demolition would require the use of drilling, small commercial explosives, and heavy equipment including hydraulic breakers (e.g., hoe-rams) and concrete "diamond" saws to demolish the structure. However, contractors would be required to properly store, transport, and dispose of their hazardous waste, and therefore, would pose minimal risk to human health or the environment.

Additionally, a permanent increase in hazardous waste generation would occur from universal wastes (e.g., batteries, light bulbs) being generated as a result of operation/maintenance of the proposed new facilities.

Underground Storage Tanks

The proposed construction of permanent facilities at SSTC-South has the potential to disturb the subsurface in the area of the former UST sites. Although all 75 former USTs have received regulatory closure, there is the potential of residual petroleum contamination remaining in the subsurface at 19 of the 75 former USTs where releases to the environment were noted. Disturbing residual petroleum contamination increases the risks to human health and the environment during excavation, transportation, and disposal. Where possible, construction projects would avoid disturbing areas of known historical UST releases. Precautions would be taken during construction to screen for potential hazardous constituents in soil and groundwater to protect workers, and any contaminated soils excavated during site improvements would be managed and disposed of in accordance with the Navy Environmental and Natural Resource Program Manual (OPNAVINST 5090.1D), NAVOSH Program Manual Reference (OPNAVINST 5100.23), and applicable state and Federal regulations. Implementation of the impact avoidance and minimization measures described below would avoid any significant human health and the environmental impacts from USTs.

IR Sites

IR Site 10 was granted No Further Action by the RWQCB, and no hazardous materials are thought to have been disposed of on-site; therefore, IR Site 10 poses minimal risk to human health or the environment under Alternative 1.

At IR Site 11, a removal action was completed in November 2010. The closeout report recommended No Further Action for the site and it has been closed (RWQCB 2013). Therefore, IR Site 11 is considered to pose minimal risk to human health or the environment under Alternative 1. Alternative 1 would not result in any significant impacts to IR sites.

Overall, Alternative 1 would not result in any significant hazardous materials and waste impacts.

Mitigation Measures/Impact Avoidance and Minimization Measures

Mitigation Measures

No mitigation measures are proposed.

Impact Avoidance and Minimization Measures

- The Navy's general instructions (e.g., OPNAVINST 5090.1D and 5100.23) and training activity planning and review processes ensure that hazardous materials and hazardous waste are stored and handled appropriately. The Navy's current measures include its Hazardous Waste Management Plan, NBC Hazardous Substance Release Integrated Contingency Plan (U.S. Navy 2008a), and Regional Explosive Hazardous Waste Management Plan (U.S. Navy 2011b).

- Field screen (e.g., air monitoring) during construction to identify potential residual petroleum contamination.

- Manage and dispose of disturbed soil or debris in the event that residual contamination is encountered in accordance with Navy guidance (OPNAVINST 5090.1D and 5100.23), and applicable state and Federal regulations.

- Prior to the start of any demolition activities, contractors shall perform hazardous building materials surveys in order to identify and implement appropriate control measures during demolition to protect human health (both worker and public) and the environment. Appropriate control measures may include preparation and implementation of demolition plans, lead compliance plans, and/or asbestos abatement plans, as necessary, depending upon the results of the hazardous materials building surveys.

- A plan or guidance for the contractor should be in place in the event that unforeseen materials are discovered during demolition and construction. This would include communication and follow-on action protocol.

- Where possible, construction projects would avoid disturbing areas of known historical UST releases and/or IR sites.

3.4.2.4 Alternative 2 – SSTC-South Bunker Retention Alternative

Impacts

Hazardous Materials

Under Alternative 2, the impacts of hazardous materials would be the same as Alternative 1. Consequently, no significant impacts would occur.

Hazardous Wastes

The impacts of Alternative 2 with regard to hazardous waste would be the same as Alternative 1 with temporary increases of potentially hazardous demolition debris and a permanent increase in the generation of universal wastes relating to operation and maintenance of the new facilities. However, Alternative 2 does not include the demolition of Building 99; therefore, the volume of potentially hazardous demolition debris would be significantly less than Alternative 1.

Underground Storage Tanks

Under Alternative 2, the impacts with regard to USTs would be the same as Alternative 1. Consequently, the same precautionary measures should be implemented to minimize the risks to human health and the environment, as described in Section 3.4.2.3.

IR Sites

IR Site 10 was granted No Further Action by the RWQCB, and no hazardous materials are thought to have been disposed of on-site; therefore, IR Site 10 poses minimal risk to human health and the environment under Alternative 2.

At IR Site 11, a removal action has been completed and a recommendation of No Further Action is currently pending approval from the RWQCB. Therefore, IR Site 11 is considered to pose minimal risk to human health or the environment under Alternative 2. As described above for Alternative 1, Alternative 2 would not result in any significant impacts to IR sites.

Overall, Alternative 2 would not result in any significant hazardous materials and waste impacts.

Mitigation Measures/Impact Avoidance and Minimization Measures

Mitigation Measures

No mitigation measures are proposed.

Impact Avoidance and Minimization Measures

The impact avoidance and minimization measures for Alternative 2 would be the same as recommended above for Alternative 1.

3.4.2.5 Alternative 3 – Multi-Installation Alternative

Impacts

Hazardous Materials

Under Alternative 3, the amount of hazardous materials used at SSTC-South, NAB Coronado, and NASNI would increase. Thus, the quantity of hazardous materials transported to SSTC-South, NAB Coronado, and NASNI along SR-75 and the hazardous materials at SSTC-South, NAB Coronado, and

NASNI would increase. The storage, transportation, and use of hazardous materials would be conducted in accordance with all appropriate laws and regulations; consequently, no significant impacts would occur.

Hazardous Wastes

Wastes from demolition and construction activities at SSTC-South, NAB Coronado, and NASNI include waste from petroleum products, coolants, water, asbestos, lead-based paint, and residual petroleum contamination in soil at former USTs and IR Sites. With regard to Building 99, Alternative 3 would retain Building 99 similar to Alternative 2. Therefore, under Alternative 3, the impacts with regard to hazardous waste would be the same as Alternative 2. Consequently, impacts to the on-base hazardous waste management system would be the same as under current conditions and no significant impacts would occur.

Underground Storage Tanks

Under Alternative 3, the proposed construction of permanent facilities at SSTC-South, NAB Coronado, and NASNI has the potential to disturb the subsurface in the area of the former UST sites. Although all former USTs have received regulatory closure, there is the potential of residual petroleum contamination remaining in the subsurface at the former USTs where releases to the environment were noted. Consequently, the same precautionary measures should be implemented to minimize the risks to human health and the environment, as described in Section 3.4.2.3. Implementation of the impact avoidance and minimization measures described below would avoid any significant human health and the environmental impacts from USTs.

IR Sites

SSTC-South

At IR Site 11, a removal action has been completed and a recommendation of No Further Action is currently pending approval from the RWQCB. Therefore, IR Site 11 is considered to pose minimal risk to human health or the environment under Alternative 3.

IR Site 10 was granted No Further Action by the RWQCB, and no hazardous materials are thought to have been disposed of on-site; therefore, IR Site 10 poses minimal risk to human health and the environment under Alternative 3.

NAB Coronado

IR Site 1 is currently under remediation. IR Site 1 poses minimal risk to human health and the environment because of its location relative to the proposed improvements under Alternative 3.

IR Site 2 is currently under remedial action. IR Site 2 poses minimal risk to human health and the environment because of its location relative to the proposed improvements under Alternative 3.

IR Site 3 was granted No Further Action by DTSC but is under remedial action. IR Site 3 poses minimal risk to human health and the environment because of its location relative to the proposed improvements under Alternative 3.

IR Site 4 is currently under remedial action. IR Site 4 poses minimal risk to human health and the environment because of its location relative to the proposed improvements under Alternative 3.

NASNI

IR Site 10 at NASNI is currently under investigation. IR Site 10 is located adjacent to the east of the proposed maintenance and logistics portion of the UAV facility (P-870). While the disposal areas at IR Site 10 are primarily along the shoreline and P-870 does not fall within the boundaries of IR Site 10, precautions should be taken during planning and construction to prevent exposure of workers and the environment to site contaminants.

Alternative 3 would not result in any significant impacts to IR sites with the implementation of the impact avoidance and minimization measures described below.

Mitigation Measures/Impact Avoidance and Minimization Measures

Mitigation Measures

No mitigation measures are proposed.

Impact Avoidance and Minimization Measures

Impact avoidance and minimization measures would be the same for Alternative 3 as for Alternative 1.

3.4.3 Unavoidable Adverse Environmental Effects

There are no unavoidable adverse environmental effects associated with hazardous materials and wastes as a result of implementation of any of the alternatives.

3.4.4 Summary of Effects

Table 3.4-2 summarizes the effects of the No Action Alternative, Alternative 1, Alternative 2, and Alternative 3.

Table 3.4-2
Hazardous Materials and Waste Effects of the Proposed Action Alternatives

Alternative	Effects	Mitigation Measures/ Impact Avoidance and Minimization Measures
No Action Alternative	No changes to hazardous materials or hazardous waste use, transport, storage, or disposal would occur. No hazardous materials and hazardous waste impacts would occur under the No Action Alternative.	Mitigation Measures: None Impact Avoidance and Minimization Measures: None
Alternative 1 – SSTC-South Bunker Demolition Alternative (Preferred Alternative)	The quantity of hazardous materials transported to SSTC-South and the hazardous materials at SSTC-South would increase. However, the maximum quantities of these materials stored on-site would not increase, because the use increase would not trigger the need for expanded storage facilities. There would be a temporary increase in production of hazardous waste due to demolition and construction activities, however, contractors would be required to properly store, transport, and dispose of their hazardous waste so that there would be a minimal risk to human health or the environment. Although all former underground storage tanks (UST) have received regulatory closure, Alternative 1 has the potential to disturb the subsurface in the area of the former USTs which increases the risks to human health and the environment during excavation, transportation, and disposal. IR Sites 10 and 11 pose minimal risk to human health or the environment under Alternative 1. Alternative 1 would not result in any significant hazardous materials and waste impacts.	Mitigation Measures: None Impact Avoidance and Minimization Measures: • The Navy's general instructions (e.g., OPNAVINST 5090.1D) and training activity planning and review processes serve to ensure that hazardous materials and hazardous waste are stored and handled appropriately. • Compliance with the Navy's business plan, Hazardous Waste Management Plan, NBC Hazardous Substance Release Integrated Contingency Plan, and Regional Explosive Hazardous Waste Management Plan. • Field screen (e.g., air monitoring) during construction to identify potential residual petroleum contamination. • Manage and dispose of disturbed soil or debris in the event that residual contamination is encountered in accordance with Navy guidance (OPNAVINST 5090.1D and 5100.23), and applicable state and Federal regulations. • Prior to the start of any demolition activities, contractors shall perform hazardous building materials surveys in order to identify and implement appropriate control measures during demolition to protect human health (both worker and public) and the environment. Appropriate control measures may include preparation and implementation of demolition plans, lead compliance plans,

Alternative	Effects	Mitigation Measures/ Impact Avoidance and Minimization Measures
		and/or asbestos abatement plans, as necessary, depending upon the results of the hazardous materials building surveys. A plan or guidance for the contractor should be in place in the event that unforeseen materials are discovered during demolition and construction. This would include communication and follow-on action protocol. • Where possible, construction projects would avoid disturbing areas of known historical UST releases and/or IR sites.
Alternative 2 – SSTC-South Bunker Retention Alternative	The Alternative 2 hazardous materials, hazardous waste, USTs and IR sites impacts would be the same as Alternative 1. Overall, Alternative 2 would not result in any significant hazardous materials and waste impacts.	Mitigation Measures: None Impact Avoidance and Minimization Measures: Impact avoidance and minimization measures would be similar to Alternative 1.
Alternative 3 – Multi-Installation Alternative	The amount of hazardous materials used and the quantity of hazardous materials transported to SSTC-South, NAB Coronado, and NASNI along SR-75 would increase. However, the maximum quantities of these materials stored on-site would not increase, because the use increase would not trigger the need for expanded storage facilities. Wastes from demolition and construction activities at SSTC-South, NAB Coronado, and NASNI include waste from petroleum products, coolants, water, and residual petroleum contamination in soil at former USTs and IR Sites. Alternative 3 would include retention of Building 99 similar to Alternative 2. Therefore, under Alternative 3, the impacts with regard to hazardous waste would be the same as Alternative 1 and Alternative 2. Although all former UST have received regulatory closure, Alternative 1 has the potential to disturb the subsurface in the area of the former USTs which increases the	Mitigation Measures: None Impact Avoidance and Minimization Measures: Impact avoidance and minimization measures would be similar to Alternative 1.

Alternative	Effects	Mitigation Measures/ Impact Avoidance and Minimization Measures
	risks to human health and the environment during excavation, transportation, and disposal. Similar to Alternative 1, IR Sites 10 and 11 at SSTC-South pose minimal risk to human health or the environment under Alternative 3. IR Sites 1 to 4 at NAB Coronado pose minimal risk to human health and the environment because of their locations relative to the proposed improvements under Alternative 3. IR Site 10 at NASNI is currently under investigation and precautions should be taken during planning and construction to prevent exposure of workers and the environment to site contaminants. Alternative 3 would not result in any significant hazardous materials and waste impacts.	

1
2

3.5 WATER QUALITY AND HYDROLOGY

Water resources on NBC Coastal Campus consist of all surface and receiving waters. Surface waters include rivers, wetlands, drainage channels, and seasonal pools. Receiving waters are the surface waters into which drainages flow. Ultimately, San Diego Bay, and the Pacific Ocean are the receiving waters for all drainages and runoff from the NBC Coastal Campus region.

3.5.1 Affected Environment

3.5.1.1 Region of Influence

The ROI for water quality and hydrology includes those areas in which construction or operation of facilities associated with the Proposed Action alternatives would potentially affect surface or coastal waters. The ROI for the Proposed Action includes drainages in the Otay Hydrologic Unit (HU). The ROI for water quality and hydrology extends from proposed areas of ground disturbance downstream in any affected drainages that flow to San Diego Bay and the Pacific Ocean. The ROI includes surface water (including floodplains) and receiving water resources.

Groundwater on the Coronado peninsula is too saline for potable uses due to its proximity to San Diego Bay and the Pacific Ocean, and it is not designated as a beneficial use in the San Diego Basin Plan (RWQCB 1994). Therefore, due to its poor quality, groundwater resources are not included in this analysis.

3.5.1.2 Regulatory Setting

A variety of governing laws and regulations serve to protect surface water quality by establishing water quality compliance standards or waste discharge requirements (WDRs). These mandates require implementation of a number of design, construction, and operational controls that address structural and non-structural BMP requirements for proper runoff management and water quality treatment/protection. Applicable regulations and the associated agencies with regulatory authority and oversight are described below.

Coastal Zone Management Act

The CZMA of 1972 encourages coastal states to be proactive in managing coastal zone uses and resources. The CZMA established a voluntary coastal planning program, and participating states submit a Coastal Management Plan to the National Oceanic and Atmospheric Administration (NOAA) for approval. In compliance with the CZMA, Federal agency actions within or outside of the coastal zone that affect any land or water use or natural resource of the coastal zone must be carried out in a manner that is consistent, to the maximum extent practicable, with the enforceable policies of the approved state management programs. Each state defines its coastal zone in accordance with the CZMA. As part of their programs, states must develop and implement coastal nonpoint-source pollution control programs. States may object to permits for activities that are inconsistent with the state's coastal zone management plan. Low-impact development (LID) techniques can serve to address or partially address state implementation requirements of a nonpoint-source pollution control program.

Energy Independence and Security Act Section 438

Under this section (Storm Water Runoff Requirements for Federal Development Projects), the sponsor of any development or redevelopment project involving a Federal facility with a footprint that exceeds 5,000 square feet must use site planning, design, construction, and maintenance strategies for the property to maintain or restore, to the maximum extent technically feasible, the predevelopment hydrology of the property with regard to the temperature, rate, volume, and duration of flow.

Due to the low threshold of mandatory implementation (i.e., projects greater than 5,000 square feet), this legislation has become the primary regulatory driver for Federal facilities with respect to storm water management and LID implementation (USEPA 2009b).

LID techniques such as retention and detention ponds can attenuate peak flows associated with increased development and impervious surface while simultaneously reducing the volume of storm water runoff discharged to surface waters.

Other Federal LID Guidance

In addition to identifying solutions to the existing storm drain conveyance system required of this study and complying with NPDES requirements, NBC policy also calls for the integration of LID techniques into future systems, as provided by the guidance, standards, and goals specified in the following documents:

- Department of the Navy Low Impact Development Policy for Stormwater Management Memorandum (U.S. Navy 2007e); and
- Unified Facilities Criteria (UFC): Low Impact Development (UFC 3-210-10; DoD 2010).

As stated by Federal criteria (UFC 3-210-10; DoD 2010), storm water management solutions must qualify as state and local government-approved BMPs and meet technical performance criteria. For example, an infiltration trench must provide a minimum level of pollutant removal and meet other performance requirements. A number of regulators are specifically encouraging the use of LID techniques and other innovative storm water management solutions that reduce pollution associated with runoff. Many already encourage the use of bioretention, filter strips, vegetated buffers, grassed swales, and infiltration trenches. In some cases, storm water credits may be given for using LID approaches.

Sikes Act

The Sikes Act requires facilities to manage natural resources via an approved Integrated Natural Resources Management Plan (INRMP), which serves to manage ecosystems, including watersheds and wetlands. Consistent with the goals of the Sikes Act, the use of LID techniques helps to maintain the natural landscape and its hydrology.

Federal Clean Water Act of 1972

This is the basic Federal law dealing with surface water quality control and protection of beneficial uses of water. The purpose of the Clean Water Act (CWA) is to provide guidance for the restoration and maintenance of the chemical, physical, and biological integrity of the nation's waters through prevention

and elimination of pollution. The CWA applies to discharges of pollutants into waters of the U.S. The CWA establishes a framework for regulating storm water discharges from municipal, industrial, and construction activities under the NPDES. In compliance with the CWA, municipalities across the nation are issued municipal NPDES permits. In California, the State Water Resources Control Board (SWRCB) administers the NPDES program. The following CWA sections are most relevant to this analysis.

CWA Section 303(d)

Section 303 of the CWA requires states to adopt water quality standards for all surface waters of the U.S. As defined by the CWA, water quality standards consist of two elements:

- designated beneficial uses of water bodies; and
- criteria that protect the designated uses.

Under CWA Section 303(d), states, territories, and authorized tribes are required to develop a list of water bodies that are considered to be "impaired" from a water quality standpoint. Water bodies that appear on this list do not meet, or are not expected to meet, water quality standards even after the minimum required levels of pollution control technology have been implemented to reduce point sources of pollution. The law requires that respective jurisdictions (for example, RWQCBs) establish priority rankings for surface water bodies on the lists and develop action plans, referred to as Total Maximum Daily Loads (TMDLs), to improve water quality. The San Diego RWQCB publishes the list of water-quality-limited segments in the San Diego region, including for NBC (SWRCB 2010).

Section 319, State Nonpoint Source Management Program

Although this section of the CWA includes no enforcement mechanism to ensure that states actually develop and implement programs, CWA Section 303 requires that states identify all the activities that are causing a water body to be impaired, including nonpoint-source pollutants, and develop mitigation plans.

CWA Section 401

Every applicant for a Federal permit or license for any activity that may result in a discharge to a water body must obtain a CWA Section 401 Water Quality Certification for the proposed activity and comply with state water quality standards prescribed in the certification. In California, these certifications are issued by SWRCB under the auspices of RWQCB. Most certifications are issued in connection with CWA Section 404 U.S. Army Corps of Engineers (USACE) permits for dredge and fill discharges.

CWA Section 402

CWA Section 402 sets forth regulations that prohibit the discharge of pollutants into waters of the U.S. from any point source without obtaining an NPDES permit. SWRCB implements the NPDES and the state's water quality programs by regulating point-source discharges of wastewater and agricultural runoff to land and surface waters to protect their beneficial uses. To comply with the CWA water quality regulations, the various RWQCBs in California (nine regions) require permits for discharging or proposing to discharge materials that could affect water quality. SWRCB and its RWQCBs administer the NPDES permit program.

Permitting the construction or modification of outfall structures, where the discharged effluent is authorized or otherwise complies with an NPDES permit, would also be governed under Nationwide Permit #7, requiring the permittee to submit a preconstruction notification to the district USACE engineer before commencing the activity. Nationwide Permit #7 (Outfall Structures and Associated Intake Structures) authorizes activities related to the construction or modification of outfall structures and associated intake structures, where the effluent from the outfall is authorized, conditionally authorized, or specifically exempted by, or that are otherwise in compliance with, regulations issued under the NPDES Program.

SWRCB/RWQCB also regulates discharges to, and the quality of, groundwater resources through the issuance of WDRs. WDRs are issued to discharges that specify limitations relative to the Water Quality Control Plan for the San Diego Basin (Basin Plan) (RWQCB 1994).

Although the NPDES program initially focused on point-source discharges of municipal and industrial wastewater that were assigned individual permits for specific outfalls, results of the Nationwide Urban Runoff Program identified contaminated storm water as one of the primary causes of water quality impairment. To regulate runoff-related (nonpoint-source) discharges, USEPA developed a variety of general NPDES permits for controlling industrial, construction, and municipal storm water discharges:

- Industrial. The *Waste Discharge Requirements for Discharges of Storm Water Associated with Industrial Activities Excluding Construction Activities* (Industrial General Permit; SWRCB Water Quality Order 97-03-DWQ) regulates industrial site storm water management. These regulations prohibit discharges of non-storm water to waters of the U.S. from a broad range of industrial activities, including mining, manufacturing, disposal, recycling, and transportation, unless such discharges comply with a site-specific NPDES permit. Storm water discharges from industrial facilities covered under this permit must also incorporate proper pollution prevention controls in accordance with the Industrial General Permit. As of January 2014, public comment on the final draft of this permit is being considered and the expectation for permit renewal is mid- to late 2014.

- Construction. Dischargers whose projects disturb 1 or more acres of soil, or less than 1 acre but that are part of a larger common plan of development that in total disturbs 1 or more acres, are required to obtain coverage under SWRCB Order 2012-0006-DWQ (amending Order 2009-0009-DWQ as amended by 2010-0014-DWQ), the *General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities* (Construction General Permit). Construction activity subject to this permit also includes linear underground/overhead projects disturbing at least 1 acre. C&D activities subject to this permit include clearing, grading, grubbing, and excavation, or any other activity that results in a land disturbance equal to or greater than 1 acre.

  Linear Utility Project (LUP) construction includes those activities necessary for installation of underground and overhead linear facilities (e.g., conduits; substructures; pipelines; towers and poles; cables and wires; connectors; switching, regulating, and transforming equipment; and associated ancillary facilities). LUP construction also includes those activities necessary for underground utility mark-out, potholing, concrete and asphalt cutting and removal, trenching, excavating, boring and drilling, access road and pole/tower pad and cable/wire pull station construction, substation construction, substructure installation, tower footings and/or foundations construction, pole and tower installations, pipeline installations, welding, concrete and/or

pavement repair or replacement, and stockpile/borrow locations. As Order 2003-0007-DWQ previously regulated LUP construction activities, these projects are now regulated by Attachment A of Order 2012-0006-DWQ.

Storm water discharges from dredge spoil placement that occur outside of USACE jurisdiction (upland sites) and that disturb 1 or more acres of land surface from construction activity are also covered by the Construction General Permit. A construction site that includes a dredge and/or fill discharge to any water of the U.S. (e.g., wetland, channel, pond, or marine water) requires a CWA Section 404 permit from USACE and a CWA Section 401 Water Quality Certification from RWQCB or SWRCB.

- Municipal. Under Phase I of its storm water program, USEPA published NPDES permit application requirements for municipal storm water discharges for municipalities that own and operate separate storm drain systems serving populations of 100,000 or more, or that contribute significant pollutants to waters of the U.S. Under Phase II, small municipal separate storm sewer systems (MS4s) that are not permitted under the municipal Phase I regulations are regulated under the Small MS4 general permit. NBC is regulated under *Waste Discharge Requirements for the United States Department of the Navy, Naval Base Coronado* NPDES Order No. R9-2009-0081, as modified by Order No. R9-2010-0057 (CA0109185). In compliance with Order No. R9-2009-0081, NBC is required to control and monitor runoff and discharges to receiving waters.

CWA Section 403

CWA Section 403 provides that point-source discharges to the territorial seas, contiguous zones, and oceans are subject to regulatory requirements in addition to the technology- or water-quality-based requirements applicable to typical discharges. The requirements are intended to ensure that no unreasonable degradation of the marine environment will occur as a result of a discharge, and that sensitive ecological communities are protected. These requirements can include ambient monitoring programs designed to determine degradation of marine waters, alternative assessments designed to further evaluate the consequences of various disposal options, and pollution prevention techniques designed to further reduce the quantities of pollutants requiring disposal and thereby reduce the potential for harm to the marine environment. If CWA Section 403 requirements for protection of the ecological health of marine waters are not met, an NPDES permit will not be issued.

CWA Section 404

Section 404 is addressed in Section 3.7.2.4 (Biological Resources).

Executive Order 11988, Floodplain Management

EO 11988 directs all Federal agencies to refrain from conducting, supporting, or allowing any activity that would significantly encroach into a floodplain unless it is the only practicable alternative. If the lead agency finds that the only practicable alternative requires siting in a floodplain, the agency must either design or modify its action to minimize harm to or harm within the floodplain, and circulate a notice explaining why the action is proposed to be located in a floodplain.

Federal Antidegradation Policy

The Federal antidegradation policy has been in existence since 1968. The policy protects existing uses, water quality, and national water resources. It directs each state to adopt a statewide policy that includes the following primary provisions:

- maintain and protect existing instream uses and the water quality necessary to protect those uses;
- where existing water quality is better than necessary to support fishing and swimming conditions, maintain and protect water quality unless the state finds that allowing lower water quality is necessary for important local economic or social development; and
- where high-quality waters constitute an outstanding national resource, such as waters of national and state parks, wildlife refuges, and waters of exceptional recreational or ecological significance, maintain and protect that water quality.

3.5.1.3 Existing Conditions

Inland Surface Waters

Otay Hydrologic Unit

SSTC-South, NAB Coronado, and NASNI lie within the Coronado Hydrologic Area (HA) of the Otay HU (Figure 3.5-1). The Otay HU encompasses approximately 160 square miles and discharges to San Diego Bay and, ultimately, the Pacific Ocean. The Otay HU consists largely of unincorporated area, but also includes portions of the cities of Chula Vista, Imperial Beach, Coronado, National City, and San Diego. The predominant land uses in the Otay HU are open space (67 percent) and urban/residential (20 percent) (PCW 2012). Surface waters in the Coronado HA include wetlands, vernal pools, and natural and built drainage channels (U.S. Navy 2011b). There are no streams, rivers, or creeks in the Coronado HA. Some of the minor utility and road improvements would occur within the Otay Valley HA of the Otay HU (Figure 3.5-1). Surface waters in the Otay Valley HA include vernal pools and the Otay River, which is the main surface water body in the Otay Valley HA.

Beneficial uses have not been identified in the Basin Plan (RWQCB 1994) for the drainage channels in the Coronado HA. The wetlands and vernal pools in the Coronado HA are located on SSTC-South and are discussed in Section 3.7, Biological Resources.

Coastal Waters

SSTC-South occupies approximately 2.5 miles of coastline (approximately 1.2 miles of bay and 1.3 miles of ocean). Coastal water resources include San Diego Bay and the Pacific Ocean. San Diego Bay is a naturally formed, crescent-shaped embayment that is separated from the Pacific Ocean by the Silver Strand peninsula, a long, narrow sand spit that extends from the City of Imperial Beach to North Island. The mouth of San Diego Bay is about 0.6 mile wide. San Diego Bay is approximately 15 miles long, and varies from 0.2 to 3.6 miles in width from the mouth of Otay River to the tip of Point Loma.

Source: ESRI 2012; CALH2O 2011; AerialExpress 2011

6,000 3,000 0 6,000 Feet

Scale: 1:72,000; 1 inch = 6,000 feet

Figure 3.5-1
Naval Base Coronado Watersheds Map

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Beneficial uses identified in the Basin Plan (RWQCB 1994) for San Diego Bay are as follows:

- IND: Industrial Service Supply;
- NAV: Navigation;
- REC-1: Contact Water Recreation;
- REC-2: Non-Contact Water Recreation;
- COMM: Commercial and Sport Fishing;
- BIOL: Preservation of Biological Habitats of Special Significance;
- EST: Estuarine Habitat;
- WILD: Wildlife Habitat;
- RARE: Rare, Threatened, and Endangered Species;
- MAR: Marine Habitat;
- MIGR: Migration of Aquatic Organisms;
- SPWN: Spawning, Reproduction, and/or Early Development; and
- SHELL: Shellfish Harvesting.

Constituents of concern within the Coronado HA impacting San Diego Bay include coliform bacteria, trace metals, and other toxic constituents (PCW 2012). Additionally, San Diego Bay has been listed as impaired on the CWA Section 303(d) list (SWRCB 2010) for copper at Coronado Cays and Glorietta Bay, two areas near the Proposed Action limits. San Diego Bay is currently experiencing these impairments as a result of urban runoff, agricultural runoff, resource extraction, septic systems, and marina and boating activities (e.g., bottom coatings).

Pacific Ocean

To the west of the proposed NBC Coastal Campus is the Pacific Ocean, where the Otay River watershed ultimately drains. Beneficial uses of the Pacific Ocean identified in the Basin Plan (RWQCB 1994) are as follows:

- IND: Industrial Service Supply;
- NAV: Navigation;
- REC-1: Contact Water Recreation;
- REC-2: Non-Contact Water Recreation;
- COMM: Commercial and Sport Fishing;
- BIOL: Preservation of Biological Habitats of Special Significance;
- WILD: Wildlife Habitat;
- RARE: Rare, Threatened, and Endangered Species;
- MAR: Marine Habitat;
- AQUA: Aquaculture;
- MIGR: Migration of Aquatic Organisms;
- SPWN: Spawning, Reproduction, and/or Early Development; and
- SHELL: Shellfish Harvesting.

The Pacific Ocean has been listed as impaired on the CWA Section 303(d) list (SWRCB 2010) for indicator bacteria in the vicinity of the project limits (Silver Strand) due to urban runoff.

Floodplains and Drainage

Floodplains are defined as lowland and relatively flat areas adjoining inland and coastal waters that are subject to a 1 percent or greater chance of flooding in any given year. All military properties are exempt from Federal Emergency Management Agency (FEMA) regulations and, as a result, FEMA has not designated flood zones within NBC. However, the potential for flooding on the Coronado Peninsula is high. The climate is semiarid and the seasonal precipitation is highly variable in frequency, magnitude, and location. Infrequent large bursts of rain can flood areas unexpectedly. Flooding in Coronado and the rest of Southern California most frequently occurs during winter storm events from November to April, and occasionally during the summer when a tropical storm makes landfall in the region.

Although SSTC-South is outside the 100-year flood zone, some off-SSTC-South areas planned for traffic and utility improvements, are within the 100-year floodplain and are subject to flooding during a 100-year storm event (Figure 3.5-2). SSTC-South is susceptible to localized flooding and has been known to contain seasonal pools created by storm water runoff due to its low-lying, flat terrain; poor drainage; and high water table. Runoff from the City of Imperial Beach and sea water infiltration during high tides contribute to the seasonal formation of these pools. There is a seasonal freshwater pond (approximately 0.7 acre) that is fed by storm water runoff from Imperial Beach, located in the central portion of YMCA Camp Surf that corresponds with the southwestern corner of SSTC-South. Ditches connect low-lying areas on the eastern portion of SSTC-South to culverts under SR-75 that ultimately drain to San Diego Bay. Drainage channels carry storm water runoff from the central portions of SSTC-South to a sump pump at YMCA Camp Surf that diverts this drainage to the ocean.

3.5.2 Environmental Consequences

3.5.2.1 Approach to Analysis

This section focuses on activities of the Proposed Action alternatives that could affect water quality and hydrology. Factors considered in evaluating the effects of an alternative on water quality or hydrology include the extent to which the Proposed Action alternatives would do any of the following:

- Result in a substantial increase in impervious surfaces and associated increased runoff;
- Result in a substantial alteration to drainage patterns due to changes in runoff flow rates or volumes (i.e., result in substantial flooding or ponding of surface runoff);
- Substantially degrade the quality of surface/receiving waters;
- Violate Federal, state, or regional water quality standards or waste discharge requirements; or
- Require or result in the construction of new storm water drainage facilities or the expansion of existing facilities, the construction of which could cause significant environmental effects.

3.5.2.2 No Action Alternative

Impacts

The No Action Alternative would maintain existing facilities and land uses at SSTC-South, and none of the proposed construction or improvements would occur. No new impervious surfaces would be created;

Source: ESRI 2012; CALH2O 2011; AerialExpress 2011

6,000 3,000 0 6,000 Feet

Scale: 1:72,000; 1 inch = 6,000 feet

Figure 3.5-2
Naval Base Coronado Floodzone Map

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therefore, no associated increased runoff would occur. Drainage patterns/flows would not be impacted and there would be no new water quality impacts; water quality in the ROI would remain as is.

Facilities, activities, land use, and storm water runoff controls would continue as is and would not incorporate modernization of infrastructure, runoff management, pollution prevention, or sustainable design.

Mitigation Measures/Impact Avoidance and Minimization Measures

No mitigation measures and impact avoidance and minimization measures are proposed.

3.5.2.3 Alternative 1 – SSTC-South Bunker Demolition Alternative (Preferred Alternative)

Impacts

Impervious Surfaces

Alternative 1 would increase impervious surfaces and associated runoff compared to existing conditions. The footprint associated with Alternative 1 is a largely earthen, pervious area that would be expected to be developed into campus facilities that are associated with impervious roof areas, parking facilities, roads, walkways, and other related hardscape. The addition of new roads and off-site road improvements would increase vehicle traffic over existing conditions, which would increase the potential for pollutants in runoff from vehicle use, including copper, zinc, motor oil deposits, and polyaromatic hydrocarbons (PAHs). However, the Navy has established or adopted a variety of building standards (DoD 2010; U.S. Navy 2007e; USEPA 2009b) that require LID design in new and redevelopment of military facilities.

Accordingly, new facilities construction would include sustainable designs (i.e., LID, energy efficient, and integrated layout) in compliance with these Federal standards and the impact avoidance and minimization measures specified in Section 5.5. Although the NBC Coastal Campus has a goal of zero storm water discharge, should that not be achieved, runoff during construction and postconstruction operations would be minimized and treated through LID, site design, and/or structural BMPs mandated by these measures. As a result, no significant impacts would occur.

Alteration to Drainage Patterns

Alternative 1 would create new impervious surfaces that could alter on-site and off-site drainage patterns, which could cause undesirable increases in surface runoff flow rates or discharge volumes.

As discussed above, construction and postconstruction activities would be required to adhere to various Federal standards and the impact avoidance and minimization measures specified in Section 5.5. By successfully complying with these measures, runoff during construction and postconstruction operations would be minimized and 100-year storm flows would be properly conveyed without impeding or redirecting flood flows that would potentially harm life or property. By incorporating these design standards, no significant impacts would occur with implementation of features of Alternative 1.

Surface Water Quality

Alternative 1 would be implemented in proximity to 303(d)-listed water bodies (i.e., the Pacific Ocean and San Diego Bay), and development near these impaired water bodies could potentially generate pollutants that would exacerbate existing impairments, cause additional pollution, and impact water quality if not properly controlled. This alternative could potentially allow contaminants to enter surface and receiving waters through the following typical construction activities:

- Building foundation earthwork and roadway and utility excavation that could allow sediment to enter surface/receiving waters during storm events.
- Site preparation, demolition, and construction activities that would require the use of dust suppression methods (i.e., wet methods) to limit the volume of airborne particulates generated during these activities. Runoff from the spraying of soil and construction materials with water could enter surface/receiving waters during storm events unless control measures and BMPs are implemented.
- Demolition and/or construction activities could involve spills or releases from associated equipment (e.g., spills during refueling and maintenance activities, oil leaks from equipment). These contaminants could enter surface/receiving waters during storm events unless control measures are implemented.

Alternative 1 must adhere to both NBC NPDES Permit and Construction General Permit requirements. As such, erosion and sediment controls would be used, and a project-specific SWPPP would be in place during construction activities to reduce the amount of soils disturbed and to prevent disturbed soils from entering runoff to surface/receiving waters. LID BMPs would be required as well, as outlined in the impact avoidance and minimization measures specified in Section 5.5.

Additionally, discharging to 303(d)-listed water bodies, especially those with established TMDLs, would need to demonstrate that either no further 303(d) pollutants of concern would be added or the proposal would adhere to TMDL requirements (conditions on development either through an implementation plan and schedule for the listed water, or through special conditions required of the municipality affected by the numeric criteria of the TMDL).

Operation of Alternative 1 could increase the potential for pollutant loading into surrounding water bodies due to the increase in impervious surface area. In addition, vehicle use would increase due to the implementation of the proposed access roadway and internal streets, which could create source pollutants such as brake dust, motor oil deposits, copper, zinc, and/or PAHs that could impact surface waters.

As discussed above, construction and postconstruction activities would be required to adhere to various Federal standards, as well as the impact avoidance and minimization measures specified in Section 5.5. By successfully complying with these measures, runoff during construction and postconstruction operations would be minimized and treated through LID, site design, and/or structural BMPs mandated by these measures. Therefore, no significant impacts would occur.

Water Quality Standards

All regional, state, and Federal water quality standards are currently implemented through the SWRCB. These standards have been set to control point and nonpoint sources of water pollution. Alternative 1 could potentially increase the amount of pollutants entering water resources within the ROI. However, all development associated with this alternative would be required to conform to the water quality standards and waste discharge requirements enforced by the SWRCB. This would include applying for and complying with NPDES and storm water permits, all relevant sections of the CWA, and all other relevant standards and regulations. Furthermore, new facilities construction would include sustainable designs (i.e., LID, energy efficient, and integrated layout) to help achieve compliance with all relevant water quality standards.

Because the Proposed Action would be subject to the newly adopted Construction General Permit (2012-0006-DWQ), it would be required to adhere to the corresponding updated requirements as well. These are as follows:

- Monitoring and reporting of pH and turbidity in storm water discharges;
- Risk level assessments and a more stringent monitoring and reporting requirement for higher risk sites;
- A Rain Event Action Plan for higher risk sites;
- Annual reporting on monitoring activities; and
- Specific training or certifications of key personnel (e.g., SWPPP preparers, inspectors) to ensure that their level of knowledge and skills are adequate to design and evaluate project specifications that would comply with Construction General Permit requirements.

As discussed above, construction and postconstruction activities would be required to adhere to various Federal and state standards, as well as the impact avoidance and minimization measures specified in Section 5.5. By successfully complying with these measures, impacts associated with water quality standards or WDRs would be minimized through LID, site design, and/or structural BMPs mandated by these measures. Therefore, no significant impacts would occur.

New Storm Water Drainage Facilities or Expansion of Existing Facilities

Implementation of Alternative 1 would increase the amount of impervious surfaces, reducing the amount of storm water that would infiltrate, resulting in a larger amount of runoff reaching the existing local storm water drainage system. Because the existing system was designed for current conditions, the increase in impervious surfaces and use of the existing system could cause some change in the drainage patterns to occur. The increase in impervious surfaces would require improvements to the existing storm drain system to accommodate these larger flows and increases in runoff. Although the NBC Coastal Campus has a goal of zero storm water discharge (capture 100 percent of the discharge), should that not be achieved, runoff during construction and postconstruction operations would be minimized and treated through LID, site design, and/or structural BMPs mandated by these measures. See Section 3.12.2.3 for additional information on potential storm water impacts. Therefore, no significant impacts would occur.

Mitigation Measures/Impact Avoidance and Minimization Measures

Mitigation Measures

No mitigation measures are proposed.

Impact Avoidance and Minimization Measures

As discussed above, construction and postconstruction activities would be required to adhere to various Federal and state standards, as well as the measures specified in Section 5.5. By successfully complying with these measures, impacts associated with construction-related impacts (i.e., surface water quality and water quality standards) would be minimized through LID, site design, and/or structural BMPs mandated by these measures. Impacts would be avoided by implementation of a project-specific SWPPP with BMPs relative to site-specific needs and conditions. All new facilities construction would include sustainable designs (i.e., LID, energy efficient design, and integrated layout). Therefore, no significant impacts would occur as a result of implementation of the Proposed Action.

3.5.2.4 Alternative 2 – SSTC-South Bunker Retention Alternative

Impacts

Impervious Surfaces

Alternative 2 is similar to Alternative 1, but with the retention of the bunker instead of demolition of the bunker as proposed in Alternative 1. Implementation of Alternative 2 would include the same proposed structures and facilities, and off-site improvements, and would not result in a greater amount of impervious surfaces and associated increased runoff. Therefore, the impacts would be the same as Alternative 1.

Similar to Alternative 1, new facilities construction would include sustainable designs (i.e., LID, energy efficient, and integrated layout), and be in compliance with Federal standards and the impact avoidance and minimization measures specified in Section 5.5. As such, runoff during construction and postconstruction operations would be minimized and treated through LID, site design, and/or structural BMPs mandated by these measures.

Alteration to Drainage Patterns

Alternative 2 would create new impervious surfaces that could alter on-site and off-site drainage patterns, which could cause undesirable increases in surface runoff flow rates or discharge volumes. Similar to Alternative 1, construction and postconstruction activities would be required to adhere to various Federal standards, as well as the impact avoidance and minimization measures specified in Section 5.5. By successfully complying with these measures, runoff during construction and postconstruction operations would be minimized, and 100-year storm flows would be properly conveyed without impeding or redirecting flood flows that would potentially harm life and property. By incorporating these design standards, the extent of 100-year flood events would not be a significant impact with implementation of Alternative 2.

Surface Water Quality

Similar to Alternative 1, Alternative 2 would be implemented in proximity to 303(d)-listed water bodies (i.e., the Pacific Ocean and San Diego Bay), and development near these impaired water bodies could potentially generate pollutants that would exacerbate existing impairments, cause additional pollution, and impact water quality if not properly controlled. Construction and operation of project features could potentially allow contaminants to enter surface and receiving waters without implementation of adequate construction and postconstruction BMPs. As discussed above, construction and postconstruction activities would be required to adhere to various Federal standards, as well as the impact avoidance and minimization measures specified in Section 5.5. By successfully complying with these measures, runoff during construction and postconstruction operations would be minimized and treated through LID, site design, and/or structural BMPs mandated by these measures.

Water Quality Standards

Alternative 2 could potentially increase the amount of pollutants entering water resources within the ROI due to a larger impact area. However, similar to Alternative 1, all development associated with Alternative 2 would be required to conform to the water quality standards and WDRs enforced by the SWRCB. Furthermore, new facilities construction would include sustainable designs (i.e., LID, energy efficient, and integrated layout), which would help achieve compliance with all relevant water quality standards. As discussed above, construction and postconstruction activities would be required to adhere to various Federal and state standards, as well as the impact avoidance and minimization measures specified in Section 5.5. By successfully complying with these measures, impacts from implementation of Alternative 2 associated with water quality standards or WDRs would not have a significant impact to water quality.

New Storm Water Drainage Facilities or Expansion of Existing Facilities

Implementation of Alternative 2 would increase the amount of impervious surfaces, resulting in a larger amount of runoff reaching the existing local storm water drainage system. The increase in impervious surfaces would require improvements to the existing system to accommodate these larger flows and increases in runoff. See Section 3.12.2.4 for additional information on potential storm water impacts.

Mitigation Measures/Impact Avoidance and Minimization Measures

Mitigation Measures

No mitigation measures are proposed.

Impact Avoidance and Minimization Measures

Construction and postconstruction activities would be required to adhere to various Federal and state standards, as well as the impact avoidance and minimization measures specified in Section 5.5. By successfully complying with these measures, impacts associated with construction-related impacts (i.e., surface water quality and water quality standards) would be minimized through LID, site design, and/or structural BMPs mandated by these measures. Impacts would be avoided by implementation of a project-specific SWPPP with BMPs relative to site-specific needs and conditions. All new facilities construction would include sustainable designs (i.e., LID, energy efficient design, and integrated layout).

3.5.2.5 Alternative 3 – Multi-Installation Alternative

Impacts

Impervious Surfaces

Alternative 3 is similar to Alternative 1 but also includes components on NAB Coronado and NASNI. Three facilities would be located at NAB Coronado and a portion of P-870 at NASNI; all other proposed components would be located at SSTC-South. The SSTC-South portion of the Alternative 3 footprint would be the same as that of Alternative 2. The Proposed Action on NAB Coronado and NASNI would occur in areas already developed, and, therefore, would not create additional impervious surfaces. Implementation of Alternative 3 would include fewer proposed structures and facilities at SSTC-South than Alternative 1, and would result in slightly less increased runoff compared to Alternative 1.

Similar to Alternative 1, new facilities construction would include sustainable designs (i.e., LID, energy efficient, and integrated layout), and be in compliance with Federal standards and the impact avoidance and minimization measures specified in Section 5.5. As such, runoff during construction and postconstruction operations would be minimized and treated through LID, site design, and/or structural BMPs mandated by these measures.

Alteration to Drainage Patterns

Similar to Alternative 1, Alternative 3 would create new impervious surfaces at SSTC-South that could alter on-site and off-site drainage patterns, which could cause undesirable increases in surface runoff flow rates or discharge volumes. Similar to Alternative 1, construction and postconstruction activities would be required to adhere to various Federal standards, as well as the measures specified in Section 5.5. By successfully complying with these measures, runoff during construction and postconstruction operations would be minimized, and 100-year storm flows would be properly conveyed without impeding or redirecting flood flows that would potentially harm life and property. By incorporating these design standards, the extent of 100-year flood events would not likely be exacerbated by implementation of features of the Proposed Action.

Surface Water Quality

Similar to Alternative 1, Alternative 3 would be implemented in proximity to 303(d)-listed water bodies (i.e., the Pacific Ocean and San Diego Bay), and development near these impaired water bodies could potentially generate pollutants that would exacerbate existing impairments, cause additional pollution, and impact water quality if not properly controlled. Construction and operation of project features could potentially allow contaminants to enter surface and receiving waters without implementation of adequate construction and postconstruction BMPs. As discussed above, construction and postconstruction activities would be required to adhere to various Federal standards, as well as the measures specified in Section 5.5. By successfully complying with these measures, runoff during construction and postconstruction operations would be minimized and treated through LID, site design, and/or structural BMPs mandated by these measures.

Water Quality Standards

Alternative 3 could potentially increase the amount of pollutants entering water resources within the ROI due to a larger impact area. However, similar to Alternative 1, all development associated with Alternative 3 would be required to conform to the water quality standards and WDRs enforced by the SWRCB. Furthermore, new facilities construction would include sustainable designs (i.e., LID, energy efficient, and integrated layout), which would help achieve compliance with all relevant water quality standards. As discussed above, construction and postconstruction activities would be required to adhere to various Federal and state standards, as well as the measures specified in Section 5.5. By successfully complying with these measures, impacts associated with water quality standards or WDRs would not be significant.

New Storm Water Drainage Facilities or Expansion of Existing Facilities

Similar to Alternative 1, implementation of Alternative 3 would increase the amount of impervious surfaces at SSTC-South, resulting in a larger amount of runoff reaching the existing local storm water drainage system. The increase in impervious surfaces would require improvements to the existing system to accommodate these larger flows and increases in runoff. See Section 3.12.2.5 for additional information on potential storm water impacts.

Mitigation Measures/Impact Avoidance and Minimization Measures

Mitigation Measures

No mitigation measures are proposed.

Impact Avoidance and Minimization Measures

Construction and postconstruction activities would be required to adhere to various Federal and state standards, as well as the measures specified in Section 5.5. By successfully complying with these measures, impacts associated with construction-related impacts (i.e., surface water quality and water quality standards) would be minimized through LID, site design, and/or structural BMPs mandated by these measures. No changes in storm water flows or storm water drainage facilities would occur at NAB Coronado and NASNI.

3.5.3 Unavoidable Adverse Environmental Effects

No unavoidable adverse environmental impacts to water quality and hydrology during construction and operation of the Proposed Action are expected, provided that successful compliance occurs with the Federal standards listed above and each of the impact avoidance and minimization measures specified in Section 5.5.

3.5.4 Summary of Effects

Table 3.5-1 summarizes the water quality and hydrology effects of the three action alternatives and the No Action Alternative.

Table 3.5-1
Summary of Potential Water Quality and Hydrology Impacts of Proposed Action Alternatives

Alternative	Effects	Mitigation Measures/Impact Avoidance and Minimization Measures
No Action Alternative	No new impervious surfaces would be created; therefore, no associated increased runoff would occur. Drainage patterns/flows would not be impacted and there would be no new water quality impacts; water quality in the ROI would remain unchanged.	Mitigation Measures None Impact Avoidance and Minimization Measures None
Alternative 1 – SSTC-South Bunker Demolition Alternative (Preferred Alternative)	Alternative 1 would create new impervious surfaces that could alter on-site and off-site drainage patterns, which could cause undesirable increases in surface runoff flow rates or discharge volumes. Construction could result in erosion, off-site sediment transport, pollution, and construction material spills that could impact receiving water quality. Operation could increase the potential for pollutant loading into surrounding water bodies. Alternative 1 proposes improvements to the existing storm water drainage system to accommodate increases in runoff. Improvements could result in construction-related impacts to receiving waters. No significant water quality and hydrology impacts would occur.	Mitigation Measures None Impact Avoidance and Minimization Measures • Impacts would be avoided by implementation of a project-specific SWPPP with BMPs relative to site-specific needs and conditions. • All new facilities construction would include sustainable designs (i.e., LID, energy efficient design, and integrated layout). • Construction and postconstruction activities would be required to adhere to various Federal standards, as well as the measures specified in Section 5.5. By successfully complying with these measures, runoff during construction and postconstruction operations would be mitigated and treated through LID, site design, and/or structural BMPs mandated by these measures.
Alternative 2 – SSTC-South Bunker Retention Alternative	Alternative 2 would not result in a greater amount of impervious surfaces and associated increased runoff than Alternative 1. Similar to Alternative 1, there could be an increase in construction-related impacts to receiving water quality and the amount of pollutants entering water resources within the ROI. Alternative 2 proposes improvements to the existing storm water drainage system to accommodate increases in runoff. No significant water quality and hydrology impacts would occur.	Mitigation Measures None Impact Avoidance and Minimization Measures • These measures would be the same as Alternative 1.

Alternative	Effects	Mitigation Measures/Impact Avoidance and Minimization Measures
Alternative 3 – Multi-Installation Alternative	Alternative 3 would be similar to Alternative 1; new impervious surfaces would be created with associated increased runoff, which could alter drainage patterns and downstream hydromodification. There could also be an increase in construction-related impacts to receiving water quality and the amount of pollutants entering water resources within the ROI. Alternative 3 proposes improvements to the existing storm water drainage system to accommodate the larger runoff volume and flow associated with the increased hardscape.	Mitigation Measures None Impact Avoidance and Minimization Measures • These measures would be the same as Alternative 1.

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3.6 NOISE

3.6.1 Affected Environment

3.6.1.1 Region of Influence

The ROI for noise includes those areas where construction or operation of facilities associated with the Proposed Action alternatives would potentially affect noise-sensitive receptors. Therefore, the ROI for noise issues for this EIS is SSTC-South, NAB Coronado, NASNI, and the surrounding areas in the cities of Imperial Beach and Coronado, and Silver Strand State Beach (State of California). The ROI includes areas that could be affected by construction and operational noise sources at SSTC-South, NAB Coronado, NASNI (i.e., all surrounding areas where sound from facilities use is or could be audible above background sound levels).

3.6.1.2 Noise Fundamentals

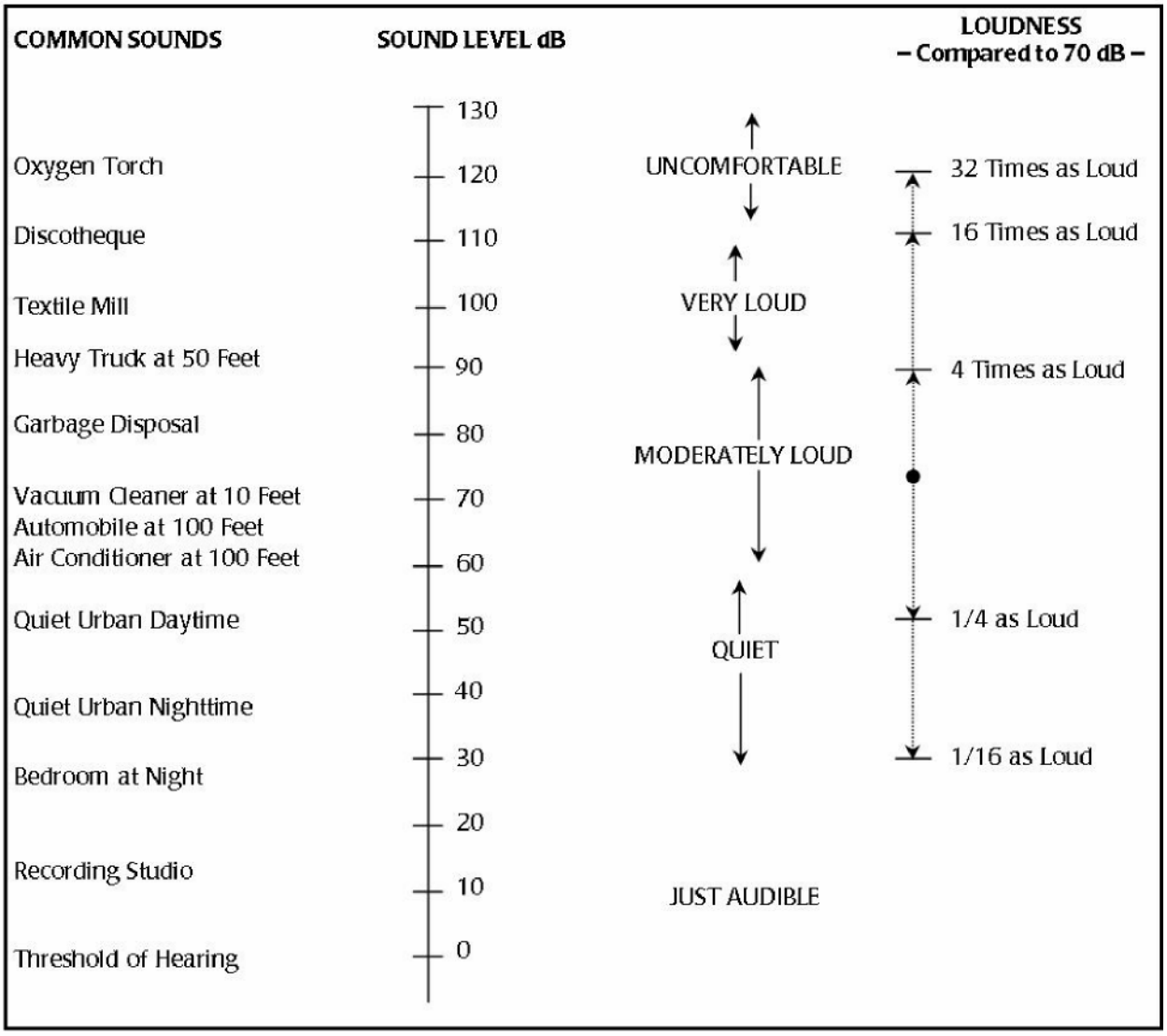
Noise is unwanted sound that interferes with normal activities or otherwise diminishes the quality of the environment. The effects of noise on people can include general annoyance; interference with speech communication; sleep disturbance; and, in the extreme, hearing impairment. There is wide diversity in responses to noise that varies not only according to the type of noise and the characteristics of the sound source, but also to the sensitivity and expectations of the receptor, the time of day, and the distance between the noise source and the receptor.

Sensitive noise receptors are generally considered persons who occupy areas where noise is an important attribute of the environment for activities that require quiet, including sleeping, convalescing, and studying. These areas include residential dwellings, mobile homes, hotels/motels, hospitals, nursing homes, educational facilities, and libraries.

Noise levels are measured as decibels (dB) on a logarithmic scale that quantifies sound intensity in a manner similar to the Richter scale used for earthquake magnitudes. Thus, a doubling of the energy of a noise source, such as doubling of traffic volume, would not double the noise level, but instead the noise level would increase by 3 dB.

Human perception of noise has no simple correlation with acoustical energy (e.g., two noise sources do not sound twice as loud as one source). Normal conversational speech has a sound pressure level of approximately 60 dB. Sound pressure levels above 120 dB begin to be felt inside the human ear as discomfort, and eventually pain. The minimum change in sound pressure level that an average human ear can detect is approximately 3 dB, a change of 5 dB is readily perceptible, and an increase (decrease) of 10 dB sounds twice (half) as loud. Typical sound pressure levels are illustrated in Figure 3.6-1.

The human ear is not equally sensitive to all frequencies within the sound spectrum. Sound can be characterized as the “A weighted” sound level (dBA), which gives greater weight to the frequencies audible to the human ear by filtering out noise frequencies not audible to the human ear. Human judgments of the relative loudness or annoyance of a sound correlate well with dBA levels; therefore, the dBA scale is used for measurements and standards involving the human perception of noise. Noise levels from aircraft and small arms firing are measured in dBA.



Source: *Handbook of Noise Control,* C.M. Harris, Editor, McGraw-Hill Book Co., 1979, and FICAN 1992.

Figure 3.6-1. Typical Sound Pressure Levels

In addition to instantaneous noise levels, the occurrence or magnitude of noise over time is also important for noise assessment. Average noise levels over a period of time are usually expressed as dBA $L_{eq(x)}$, the equivalent noise level for that period (x). For example, $L_{eq(3)}$ would be a 3-hour average; when no period is specified (L_{eq}), a 1-hour average $L_{eq(1)}$ is assumed.

The time of day is also an important factor in noise assessment, as noise levels that may be acceptable during the day may interfere with evening activities (between 7:00 PM and 10:00 PM) or sleep activities during night hours (between 10:00 PM and 7:00 AM). Therefore, there are 24-hour average noise level descriptors that add noise "penalties" to noise levels during the evening and night periods. The community noise equivalent level (CNEL) is a descriptor of the cumulative 24-hour community noise exposure, with 5 and 10 dBA added to evening and night sound levels, respectively. The day/night

average sound level (L_{dn}) is similar to CNEL, except the evening period is considered as part of the daytime period.

Noise levels naturally attenuate with distance between source and receiver, assuming no intervening topography or structures, at a rate of 6 dBA per doubling of distance over hard site surfaces (e.g., streets and parking lots) and a rate of 7.5 dBA per doubling of distance for soft site surfaces (e.g., open space with vegetation).

3.6.1.3 Regulatory Setting

A variety of noise regulations are applicable to the Proposed Action. On SSTC-South, NAB Coronado, and NASNI Federal (Navy) noise regulations are applicable, and for surrounding areas, the state of California and the cities of Imperial Beach and Coronado provide applicable noise regulations.

For activities in proximity to Navy installation boundaries, local jurisdiction noise regulations (State of California and cities of Imperial Beach and Coronado) are considered to ensure that installation projects are consistent with the state's and cities' regulations. The Proposed Action alternative areas are located on SSTC-South, NAB Coronado, and NASNI, in proximity to noise-sensitive receptors (including residences) within the cities of Imperial Beach and Coronado. No human noise-sensitive receptors are located at Silver Strand State Beach. Noise standards from the Navy, the State of California, and the cities of Imperial Beach and Coronado are considered.

Navy Standards

The Navy provides the following guidance for reducing environmental noise and establishing noise compatibility criteria for land uses at Navy installations, including the facilities at SSTC-South.

Naval Facilities Engineering Command P-970, Planning in the Noise Environment

NAVFAC P-970 is the environmental noise guidance document for NBC. NAVFAC P-970 provides noise compatibility criteria for various land uses. Exterior sound levels up to 65 dBA CNEL are determined compatible with land uses such as residences, transient lodging (motels, hotels), classrooms, and medical facilities; appropriate noise mitigation is required if sound levels are between 65 and 75 dBA CNEL. Exterior sound levels exceeding 75 dBA CNEL are incompatible with these types of land uses (U.S. Navy 1978).

Air Installations Compatible Use Zones Program

In the early 1970s, DoD established the Air Installations Compatible Use Zones (AICUZ) program in response to growing incompatible urban development around military airfields. This program provides land use guidelines for local governments with the goal of achieving compatible civilian land use patterns and activities in the vicinity of military airfields. DoD established the AICUZ program to effectively plan for land use compatibility surrounding military air installations, including promoting compatible development in high noise-exposure areas.

The AICUZ program provides noise impact zones delineated by sound contours that radiate out from the airfield runway, which typically range from 60 to 75 dBA CNEL based on projected annual operations. The primary noise generators are aircraft approaches and departures. Acceptable land uses and minimum building sound level requirements have been established for areas outside of the 70 dBA CNEL contour. Residential areas and professional services buildings are considered compatible where the L_{dn} (i.e., CNEL) is less than 65 and 70 dBA, respectively.

California Standards

State of California, Title 24 of the California Administrative Code requires that residential structures, other than detached single-family dwellings, be designed to prevent the intrusion of exterior noise so that the interior CNEL, with windows closed, does not exceed 45 dBA CNEL in any habitable room. The California State Building Code Section 1208A.8.2 implements this standard by stating that "interior noise levels attributable to exterior sources shall not exceed 45 dBA CNEL in any habitable room."

Local Standards

City of Imperial Beach

The Noise Element of the City of Imperial Beach General Plan identifies major noise sources and contains policies intended to protect the community from exposure to excessive noise levels. The City adopted a General Plan noise element in October 1994. The goal of the noise element is "to regulate and control unnecessary excessive and annoying sounds and vibrations emanating from uses and activities within the city, and to prohibit such sounds and vibrations as are detrimental to the public health, welfare, and safety of its residents" (City of Imperial Beach 1994). Table 3.6-1 shows the community noise exposure limits for different land use types that are used as compatibility guidelines for development within Imperial Beach.

As shown in Table 3.6-1, sound levels up to 60 dBA CNEL are considered compatible with land uses such as residences, transient lodging, schools, and medical facilities; conditionally acceptable from 60 to 70 dBA CNEL with appropriate sound mitigation; and unacceptable at levels exceeding 70 dBA CNEL.

The City of Imperial Beach Municipal Code contains the City's noise ordinance (City of Imperial Beach 2011). The noise ordinance does not contain quantifiable noise level limits at property lines, but regulates noise based on disturbance of "the peace, quiet and comfort of the community by creating unreasonably loud or disturbing unnecessary noises." Section 9.32.020(H) of the Municipal Code specifies noise sources that are prohibited under various conditions, including signaling devices, vehicle noises, hawkers and peddlers, advertising, and construction. Section 9.32.020(H) specifically prohibits construction noise "that is plainly audible at a distance of 50 feet from the source between the hours of 10:00 PM and 7:00 AM."

Table 3.6-1
Imperial Beach Land Use Compatibility Guidelines for Development

Land Use	Community Noise Exposure LDN or CNEL (dBA) 55	60	65	70	75	80
Residential, Theaters, Auditoriums, Music Halls, Meeting Halls, Churches						
Transient Lodging – Motels, Hotels						
Schools, Libraries, Museums, Hospitals, Nursing Homes						
Playgrounds, Parks						
Commercial and Office Buildings						

	ACCEPTABLE Specified land use is satisfactory. No noise mitigation measures are required.
	CONDITIONALLY ACCEPTABLE Use should be permitted only after careful study and inclusion of protective measures as needed to satisfy the policies of the noise element.
	UNACCEPTABLE Development is usually not feasible in accordance with the goals of the noise element.

Source: City of Imperial Beach 1994

City of Coronado

The City of Coronado Municipal Code contains the City's noise ordinance (City of Coronado 2013) which states:

A. It shall be unlawful for any person to cause noise by any means to the extent that the one-hour average sound level exceeds the applicable limit given in the following table, at any location in the City of Coronado on or beyond the boundaries of the property on which the noise is produced. The noise subject to these limits is that part of the total noise at the specified location that is due solely to the action of said person.

TABLE OF APPLICABLE PROPERTY LINE NOISE LIMITS		
Land Use Zone	**Time of Day**	**One-Hour Average Sound Level (decibels)**
Residential: All R-1A; R-1B	7:00 AM to 7:00 PM 7:00 PM to 10:00 PM 10:00 PM to 7:00 AM	50 45 40
All R-3; R-4; R-PCD; and R-5	7:00 AM to 7:00 PM 7:00 PM to 10:00 PM 10:00 PM to 7:00 AM	55 50 45
Commercial (C); Commercial Recreation (C-R); Hotel/Motel (H-M); Civic Use (C-U); Open Space (OS); and Parking Overlay (P-1)	7:00 AM to 7:00 PM 7:00 PM to 10:00 PM 10:00 PM to 7:00 AM	60 60 50

B. The sound level limit at a location on a boundary between two zoning districts is the arithmetic mean of the respective limits for the two districts. Permissible construction noise level limits shall be governed by CMC 41.10.040 and 41.10.050.

C. Fixed-location public utility distribution or transmission facilities located on or adjacent to a property line shall be subject to the noise level limits of subsection A of this section measured at or beyond six feet from the boundary of the easement upon which the equipment is located. (Ordinance 1956 § 6, 2004)

Construction

A. It shall be unlawful for any person, between the hours of 7:00 PM and 7:00 AM of any day or on legal holidays and Sundays to erect, construct, demolish, excavate for, alter or repair any building or structure in such a manner as to create a disturbing, excessive or offensive noise unless a noise control permit has been applied for and granted beforehand by the Noise Control Officer. In granting such a permit, the Noise Control Officer should consider whether the construction noise in the vicinity of the proposed work site would be less objectionable at night than during the daytime; whether obstruction and interference with traffic, particularly on streets of major importance, would be less objectionable at night than during the daytime; whether the type of work to be performed emits noises at such a low level as to not cause significant disturbances in the vicinity of the work site; the character and nature of the neighborhood of the proposed work site; whether great economic hardship would occur; if the work is in the general public interest; and he shall prescribe such conditions, working time, types of construction equipment to be used and permissible noise levels as he deems to be required in the public interest.

B. The provisions of subsection A of this section shall not apply to emergency work as defined herein; provided, that the Noise Control Officer shall be notified in writing of such emergency work no later than 48 hours after work commences.

Except as provided in CMC 41.10.040(B), it shall be unlawful for any person, including the City of Coronado, to conduct any construction activity so as to cause, at or within the property lines of any property zoned residential, an average sound level greater than 75 decibels during a one-hour period any time between the hours of 7:00 AM to 7:00 PM unless a variance has been applied for and granted by the Noise Control Officer.

3.6.1.4 Existing Conditions

Noise Sources

SSTC-South is relatively sparsely developed for its large acreage and surrounded mostly by open spaces of state beach land, the Pacific Ocean, and San Diego Bay; however, it is adjacent to the densely developed residential area of the City of Imperial Beach and the Coronado Cays portion of the City of Coronado. SSTC-South is located south of the main portion of the City of Coronado and regionally located within an urban area, in proximity to the cities of San Diego, National City, and Chula Vista. Therefore, day and night average ambient sound levels are expected to be high, representative of an urban area. In addition, the regional urban area contains major transportation activities, including nearby I-5 and freight rail lines, port activities of San Diego Bay (e.g., NASNI, NAB Coronado, Naval Base San Diego, and the Port of San Diego), and aviation activities of San Diego International Airport, NASNI, and NOLF IB, which are major sources of ambient noise levels at SSTC-South and surrounding areas.

The current predominant noise sources at SSTC-South are from training (e.g., blank gunfire, pyrotechnics, and simulated explosives), helicopter landings at the one unprepared helicopter landing zone associated with training at SSTC-South (Figure 2-2), and vehicle traffic. No fixed-wing aircraft overfly the installation, and helicopters at NOLF IB overfly the north portion of SSTC-South as they transition from the San Diego Bay flight pattern to the ocean. Helicopter flyovers are generated by helicopters conducting daytime landing practice and lift training operations at NOLF IB, and from helicopters stationed at NASNI routinely flying to NOLF IB to conduct training and practice. SSTC-South is located outside of the 65-dBA sound corridor (i.e., noise contour) for NOLF IB (U.S. Navy 2011c). The Proposed Action would not change any current flight operations.

There are no rail operations on or in proximity to SSTC-South. Vehicle traffic on SSTC-South includes a primary roadway with access to several site gates. Vehicle traffic is limited to vehicles related to training exercises or normal operations at SSTC-South. The predominant vehicle traffic noise is from SR-75 along the eastern perimeter of SSTC-South.

SR-75, also known as Silver Strand Boulevard, is a north/south, four-lane, divided principal arterial from I-5 that runs through the City of Coronado to the City of Imperial Beach, before reconnecting with I-5. Traffic noise levels are affected by the volume of vehicles, their average speed, and the mix of vehicles (i.e., percentage of trucks). SR-75 has an average daily traffic of approximately 19,800 vehicles, with a posted speed limit of 65 miles per hour, which includes existing SSTC (South and North) commuter traffic. Therefore, SR-75 is a major noise source along the Silver Strand adjacent to SSTC-South, especially during the peak AM and PM traffic hours.

Overall, existing activities on SSTC-South include several sources of sound, primarily blank gunfire, pyrotechnics, and simulated explosives events that are audible in adjacent residential, commercial, recreational, and open space areas in the City of Imperial Beach and the Coronado Cays. Major sources of sound include helicopters, traffic noise, and training exercises. Collectively, these sources generate sound on a majority of weekdays and infrequently at night and on weekends (U.S. Navy 2011c). Previous noise measurements and estimations at nearby sensitive receptors provide general ambient noise levels at the nearest sensitive receptors from training exercises and vehicle traffic on SR-75:

- In 2002, sound from Navy activities on SSTC-South was measured at various locations near residences (i.e., Coronado Cays and Imperial Beach) on 7 April 2002, between 7:00 AM and 12 noon, during an amphibious exercise on SSTC beaches (U.S. Navy 2011c). Two of the louder SSTC sound sources involved beach landings and helicopters, and short-term sound levels at the residences ranged from 70 to 86 dBA. The sound levels were measured with an unobstructed line-of-sight to most of the sources, and from distances—approximately 400 to 800 feet—that are similar to those of the sensitive receptors closest to the operating areas (U.S. Navy 2011c). Sound levels today would not be expected to vary much from these 2002 measurements.

- In 2008, average sound levels from 2008 traffic volumes on SR-75 were estimated at 69 dBA L_{eq} at 100 feet from the centerline of SR-75 adjacent to the Coronado Cays residences southernmost extent, located across SR-75 from the northernmost extent of SSTC-South (U.S. Navy 2011c). SR-75 is the primary source of noise between the Coronado Cays and SSTC-South. Traffic noise levels at Coronado Cays residences are reduced by distance and a 6-foot-high sound wall between the residences and SR-75. Traffic sound levels in the Coronado Cays park and residential area were recorded from 52 to 58 dBA in 2002 (U.S. Navy 2011c).

No new ambient noise measurements were taken for the Proposed Action, as the proposed project consists of the construction and operation of new campus buildings on-site and does not generate perceptible operational noise in proximity to off-site noise-sensitive receptors.

Primary noise sources at NAB Coronado are training activities and traffic noise from the adjacent SR-75.

Aircraft activities at NASNI are constant; therefore, aircraft noise is the primary noise source at NASNI. The NASNI 65-dBA sound contour lies northwest of the Coronado Shores residences. SSTC-South is located outside of the 65-dBA sound contour for NASNI.

Sensitive Noise Receptors

Sensitive noise receptors are generally considered persons who occupy areas where noise is an important attribute of the environment for activities that require quiet, including sleeping, convalescing, and studying. These areas include residential dwellings, mobile homes, hotels/motels, hospitals, nursing homes, educational facilities, and libraries. Sensitive noise receptors within the area include residential dwellings (i.e., single-family housing areas, bachelors enlisted quarters, and lodging facilities), child-oriented facilities and grounds (i.e., schools, child care development centers, youth centers), and hospitals.

SSTC-South currently contains human noise-sensitive receptors at educational training facilities; there is currently no overnight military housing (e.g., bachelors enlisted quarters, lodges, and family housing) provided at SSTC-South. YMCA Camp Surf, located in the southwestern corner of SSTC-South, is a seasonal overnight recreational camp for children. The nearest human noise-sensitive receptors are the residences of the City of Imperial Beach, located adjacent to the SSTC-South southern boundary. Other sensitive receptors in Imperial Beach include three elementary schools (West View, Bayside, and Imperial Beach) and Mar Vista High School. Farther to the north along SR-75 is the residential community of Coronado Cays, opposite Silver Strand State Beach. Coronado Cays is a small upscale housing community on the bayside of the Silver Strand under the land use jurisdiction of the City of Coronado.

Protected wildlife (special status species) and their habitat may also be considered noise-sensitive receptors, especially during the species breeding season. The South Bay Biological Study Area is a 27-acre site in the northeastern corner of SSTC-South. The occurrence of special status species on and adjacent to SSTC-South is identified along the beach west of the Proposed Action boundary, addressed in Section 3.7, Biological Resources, of this EIS.

There are no sensitive receptors near the proposed sites on NAB Coronado and NASNI.

3.6.2 Environmental Consequences

3.6.2.1 Approach to Analysis

This section focuses on activities of the Proposed Action alternatives that could generate noise and impact noise-sensitive receptors. The analysis addresses both construction and postconstruction (operation) noise impacts. Factors considered in evaluating the effects of an alternative on noise include the extent to which the alternatives would do any of the following:

- result in a substantial increase in ambient noise levels;
- result in incompatible land use due to noise; or
- violate Federal, Navy, state, regional, or local noise standards or requirements.

Public concerns about noise in general may include hearing loss, nonauditory health effects, conversation interruption, sleep interference, distraction, and annoyance. Existing training activities at SSTC-South do not generate noise at intensities that could contribute to hearing loss in off-site public areas, and since the Proposed Action would not change existing training activities, this issue is not further addressed. Thus, the potential noise effects would be conversation interruption, sleep interference, distraction, and annoyance.

Construction

Construction noise is generated by the use of construction equipment and vehicles, and the transport of material and workers to and from the construction site. Construction noise levels are a function of the number and type of equipment used and the timing and duration of their noise-generating activities. Table 3.6-2 provides a list of noise levels generated by various types of equipment that could be used for the construction of proposed facilities.

As shown in Table 3.6-2, maximum noise levels from construction equipment range from approximately 70 to 90 dBA at 50 feet from the equipment. These noise levels vary for individual pieces of equipment, based on different sizes and engines. Equipment noise levels also vary as a function of the activity level, or duty cycle. In a typical construction project, the loudest short-term noise generators tend to be earth-moving equipment under full load, at approximately 85 to 90 dBA at a distance of 50 feet from the source. In addition to these maximum instantaneous noise levels, the magnitude of overall construction noise can be defined by the type of construction activity, the various pieces of equipment operating, and the duration of their activity. Typically, construction noise is averaged over time and expressed as dBA L_{eq}.

Noise levels from construction activities are typically considered as point sources of noise and attenuate with distance at a rate of 6 dBA per doubling of distance over hard site surfaces (such as streets and parking lots), and a rate of 7.5 dBA per doubling of distance over soft site surfaces (such as grass fields and open terrain with vegetation) (FHWA 2006).

Table 3.6-2
Construction Equipment Noise Levels

Equipment	Maximum Noise Level (dBA) 50 feet from Source
All Other Equipment (5 horsepower or less)	85
Backhoe	80
Boring Jack Power Unit	80
Chain Saw	85
Compactor (ground)	80
Compressor (air)	80
Concrete Mixer Truck	85
Concrete Pump	82
Concrete (Diamond) Saw	90
Dozer	85
Dump Truck	84
Excavator	85
Flat Bed Truck	84
Front-End Loader	80
Generator (25 KVA or less)	70
Generator (more than 25 KVA)	82
Grader	85
Horizontal Boring Hydraulic Jack	80
Hydra Break Ram	90
Jackhammer	85
Paver	85
Pneumatic Tools	85
Pumps	77
Scraper	85
Soil Mix Drill Rig	80
Tractor	84
Vacuum Street Sweeper	80
Vibratory Concrete Mixer	80
Welder	73

KVA = kilovolt ampere
Source: FHWA 2006

The three action alternatives (Alternatives 1, 2, and 3) would generate similar noise above ambient levels during construction of the proposed facilities. Construction would generate temporary noise levels from equipment and vehicles during roadway site access improvements, structure demolition, site grading activities, utility installation, building and facility construction, and surface paving. Construction along utility routes and roadways (both on- and off-site) is estimated to progress with distance; thus, construction noise from utility work at any one location along the route would be short term. Construction

of site structures would be over a longer term (approximately 1 to 2 years) at a single location, with complete project build-out expected to occur in approximately 2024.

The potential construction noise impacts would be limited to noise-sensitive receptors in proximity to the proposed site facilities and utility routes. Construction would primarily occur on weekdays between 7:00 AM and 7:00 PM, and would not disturb typical weeknight sleep in proximity to residential areas. However, daytime receptors such as schools and hospitals could be temporarily subjected to, and affected by, construction noise, including brief maximum noise levels and/or noise levels averaged over time (e.g., 1 hour), depending on the type of construction (utility lines or structures).

The construction equipment required for these alternatives is anticipated to be for typical low-impact construction activities (e.g., no pile-driving is expected for facility foundation support). The construction equipment anticipated for these activities is estimated to generate maximum noise levels of short duration not to exceed 90 dBA L_{max} at 50 feet and hourly or average noise levels of approximately 80 dBA L_{eq} at 50 feet. In addition, construction noise may include drilling, blasting, and pavement breaking/cutting activities for the demolition of Building 99 under Alternative 1 and pavement breaking for underground utility corridors along existing paved roadways, as necessary. The high-impact construction equipment and activities for demolition (e.g., Building 99 and other structures) are estimated to generate maximum noise levels of short duration from 90 to 105 dBA L_{max} at 50 feet, or average noise levels of approximately 90 dBA L_{eq} at 50 feet.

Construction traffic associated with truck deliveries of construction materials, vehicles, and equipment; truck hauling of demolition materials; and construction worker daily trips would generate noise on-site and along access roadways during construction. Delivery and haul trucks traveling to and from the project site(s) would use designated truck routes, and construction workers would travel to and from the project site using regional freeways and major arterials. These trips would occur only during construction periods.

Facility Operations

Noise would be generated from facilities operation (e.g., pumps, generators, fans, etc.) and maintenance (e.g., landscaping), physical fitness activities, and vehicle trips associated with the operation of the constructed facilities, which would increase ambient noise levels in proximity to the new facilities and along roadways. Operational noise would be generated throughout the day and to a lesser degree into the evening and weekends. The effect of operational noise levels on sensitive receptors would be based on the proximity of sensitive receptors, and any shielding or barriers to noise generated by the facilities.

The operational noise impact of the alternatives would be limited to noise-sensitive receptors in proximity to the site facilities. The proposed site facilities would include the latest technology to minimize the operational noise levels of the facilities. Noise from ongoing training (U.S. Navy 2011c) is not expected to change and the Proposed Action alternatives would not change any current flight operations.

3.6.2.2 No Action Alternative

Impacts

The No Action Alternative would maintain existing facilities and land uses at SSTC-South, NAB Coronado, and NASNI and none of the proposed construction or improvements would occur. No new

construction or operational noise sources would be generated; ambient noise levels would not be affected.

Mitigation Measures/Impact Avoidance and Minimization Measures

No mitigation measures or impact avoidance and minimization measures are proposed.

3.6.2.3 Alternative 1 – SSTC-South Bunker Demolition Alternative (Preferred Alternative)

Impacts

Construction Noise

Implementation of Alternative 1 would generate noise levels from demolition of existing facilities, and construction and operation of proposed facilities as described above in Section 3.6.2.1 and from construction equipment shown in Table 3.6-2.

Due to its strategic location in the developable area, Building 99 must be demolished and removed. Demolition of Building 99 would occur as soon as possible but would likely involve the first 2 years (2015–2016) of construction, and during this period, is anticipated to generate the maximum noise levels, identified above. As previously described, Building 99 includes approximately 49,900 cubic yards of dense reinforced and armor-plated materials to be demolished, stockpiled, and hauled. Demolition of Building 99 would not be typical of the construction activities associated with the rest of the Proposed Action development.

Demolition of Building 99 would require the use of drilling, small commercial explosives, and heavy equipment including hydraulic breakers (e.g., hoe-rams) and concrete “diamond” saws to demolish the structure, and then break up and stockpile on-site for potential reuse, where possible, and/or hauled off-site by heavy trucks. Noise generated by a blasting event is an instantaneous impulse sound. Much of the acoustic energy (noise) released by a blasting event is in the form of very low frequency sound that is inaudible to humans. The audible noise portion (lasting 1-2 seconds) is approximately 85 dBA at 800 feet. The pressure change from the blast can rattle windows and startle people in proximity to the blast. Drilling into the material would be necessary to create bore holes for the explosive materials. Rock drills generate airborne noise levels of approximately 80 to 98 dB at a distance of 50 feet. Drilling holes for a blasting event can last from several hours to several days depending upon the material type, area to be blasted, number and depth of the holes, and the effort required to drill through the material. No more than one to two blast events are anticipated to occur in any single day due to the time required to drill the holes as well as insert and connect the explosive materials. Assuming drilling and blasting activities are conducted continuously for 8 hours for two blasts to be conducted in a day, a worst-case 8-hour average drilling noise level of approximately 98 dBA L_{eq} at 50 feet would attenuate to approximately 62 dBA L_{eq} at the Coronado Cays (approximately 3,200 feet away), below approximately 60 dBA L_{eq} at the SSTC-South boundary with Imperial Beach (approximately 4,000 feet away), approximately 76 dBA L_{eq} at the development boundary directly to the west (approximately 700 feet away), and approximately 74 dBA L_{eq} at the shoreline area directly to the west (approximately 800 feet away). The Coronado Cays community is within the City of Coronado, which limits construction noise at or within the property lines of any property zoned residential, to an average sound level of 75 dB during a 1-hour period between the hours of 7:00 AM to 7:00 PM. Construction activities would generally be restricted to occur between 7:00 AM

and 7:00 PM Mondays through Saturdays. On rare occasions, nighttime construction may be required but public notices would be posted for these activities.

Based on the worst-case scenario of no potential for reuse on-site, the truck hauling of the total volume of Building 99 demolition materials (approximately 49,900 cubic yards) would require a total of approximately 5,400 roundtrips over the 2-year Building 99 demolition period (2015–2016) using heavy trucks with 20-cubic yard per truck capacity. Over the 2-year Building 99 demolition period, this would equate to 225 trips per month (i.e., 12 trips per day). However, truck haul trips are anticipated to fluctuate based on demolition progress and the quantity of stockpiled materials ready for hauling. The maximum hauling scenario, assuming materials stockpiled and continuously ready for hauling, would equate to one truck trip departing the site every 10 minutes (i.e., 6 one-way trips per hour or 12 roundtrips per hour); or 60 one-way trips per day (i.e., 120 roundtrips per day) for a total of 45 day hauling days (assuming 5 workdays per week this would last 9 weeks or less than 3 months in duration).

In addition to the demolition of Building 99, other existing structures (e.g., various buildings) would require demolition under Alternative 1. The demolition of these existing structures would require the use of heavy equipment similar to the demolition of Building 99, including excavators and hydraulic pavement breakers (e.g., hoe-rams); however, drilling and explosives are not anticipated to be required. Demolished structures would be sorted on-site for potential reuse, where possible, and/or hauled off-site by heavy trucks, similar to hauling for the Building 99 demolition debris.

The proposed truck haul route for demolition materials would leave the site through the proposed entry control point at the north and run along SR-75 southbound through Imperial Beach to I-5. The proposed roadway improvements at the Coastal Campus entrance intersection would include construction of a southbound right-turn lane and a northbound left-turn lane into the northern portion of SSTC-South (Figure 2-6). Roadway grading and paving activities at the intersection would generate hourly average noise levels of approximately 80 dBA L_{eq} at 50 feet, which would attenuate to approximately 61 dBA L_{eq} at the Coronado Cays (approximately 450 feet from the intersection). Roadway grading and paving activities for the southbound right-turn lane, at its most northern point, would be as close as 200 feet from the Coronado Cays, and the construction noise alone would attenuate with distance to approximately 68 dBA L_{eq} at the Coronado Cays, which is less than the City of Coronado construction noise-level limit of 75 dBA L_{eq} at or within the property lines of any property zoned residential. In addition, the existing ambient noise levels in the area are elevated due to traffic noise on SR-75 previously estimated at 69 dBA at 100 feet from the centerline of the roadway (U.S. Navy 2011c).

Under the scenario with the most haul truck trips per hour or day, these trips would add a minor increase to the peak hour and average daily traffic volumes, and truck percentage identified in Section 3.9, Traffic and Circulation. The maximum number of truck trips for demolition hauling would not double the existing traffic volume on area roadways (i.e., the criteria needed to increase noise levels by 3 dBA, which is a less than perceptible change to the human ear). Thus, noise generated by demolition truck hauling would not result in a substantial temporary increase in noise levels (i.e., +5 dBA) along the project route.

The remainder of the Alternative 1 construction activities would be more typical of general demolition and construction. Noise levels from construction equipment, as shown in Table 3.6-2, would range from approximately 70 to 90 dBA at 50 feet from the equipment. The highest noise level construction equipment (i.e., grader, concrete mixer truck, saws) is estimated to generate maximum noise levels of short duration not to exceed 90 dBA L_{max} at 50 feet, which would average over 1 hour to approximately 80

dBA L_{eq} at 50 feet within the Alternative 1 development boundary. Assuming no intervening topography or structures to block the line-of-sight, 80 dBA L_{eq} at 50 feet would attenuate over distance at a conservative rate of approximately 6 dBA per doubling of distance to approximately 74 dBA at 100 feet, and approximately 68 dBA at 200 feet, and so on.

Construction activities and associated noise levels would occur within the Alternative 1 footprint, as shown in Figure 2-3, and off-site, as shown in Figure 2-5, and would be phased over a 10-year period. The nonutility improvement construction activities would occur as close as approximately 1,800 feet away from the nearest noise-sensitive receptors in Imperial Beach (i.e., residences) with the majority of the construction occurring over 3,200 feet away, as shown in Figure 2-3. Hourly average construction noise levels of 80 dBA L_{eq} at 50 feet would attenuate to approximately 49 dBA L_{eq} at 1,800 feet, and approximately 44 dBA L_{eq} at 3,200 feet. Therefore, noise-sensitive receptors in Imperial Beach, including residences and schools, would experience daytime hourly average construction noise levels of less than 50 dBA L_{eq} from construction in the Proposed Action footprint.

Similarly, these construction activities would occur at least 600 feet away from YMCA Camp Surf with the majority of the construction occurring over 3,300 feet away. Noise-sensitive receptors at the surf camp would experience daytime average construction noise levels of less than 60 dBA L_{eq} (averaged over 1 hour) at 50 feet.

In addition to the construction in the Proposed Action footprint, utility installation would occur along the proposed utility corridors, which extend south from the footprint within the SSTC-South boundary to perpendicular connections in Imperial Beach. Construction equipment for utility construction would generate maximum noise levels of approximately 85 dBA L_{max} at 50 feet, and hourly average noise levels of approximately 75 dBA L_{eq} at 50 feet at the SSTC-South boundary with Imperial Beach. However, these noise levels would attenuate with distance as corridor construction is farther away from the boundary. Utility construction would progress linearly along the utility corridor as trenching and utility installation progresses at a rate of approximately 200 to 1,000 feet per day depending upon type of utility line and underground conditions encountered. Therefore, noise from utility improvements near noise-sensitive receptors at the SSTC-South boundary with Imperial Beach and within Imperial Beach would occur in proximity of each receptor for several days during the daytime only.

Residences of Coronado Cays would be less affected by daytime construction noise at SSTC-South due to traffic noise on SR-75, located between the Cays and SSTC-South, which elevates the daytime background sound level. Coronado Cays is under the land use jurisdiction of the City of Coronado, which limits hourly average construction noise levels to 75 dBA L_{eq} between the hours of 7:00 AM and 7:00 PM. Construction noise under Alternative 1 would be primarily limited to occur between 7:00 AM and 7:00 PM and would attenuate below the City noise level limit.

U.S. Navy and City of Imperial Beach regulations do not limit the decibel level of construction noise. However, the City of Imperial Beach prohibits the occurrence of construction noise at night between 10:00 PM and 7:00 AM Construction under Alternative 1 is not proposed to occur during those hours, although on rare instances some limited construction could be required during this time.

For comparative purposes only, a reference noise level limit for many jurisdictions, such as the County of San Diego, would be a daytime construction noise limit of 75 dBA L_{eq} averaged over 8 hours at the property line of a residence. Comparatively, Alternative 1 project construction noise averaged over 1 hour

in proximity to the City of Imperial Beach residences would be below this example limit. When construction activity within the Alternative 1 footprint would be at its closest point to Imperial Beach (approximately 1,800 feet away), instantaneous maximum construction noise levels would be attenuated to as high as 60 dBA L_{max} and, therefore, may be a temporary audible daytime disturbance to these receptors. When construction activities occur at a greater distance from receptors, noise would be further attenuated, thereby lessening the potential for disturbance. Alternative 1 construction noise impacts to Imperial Beach sensitive receptors would be temporary and short term, and would occur during daytime hours in compliance with the City of Imperial Beach noise ordinance.

In addition to human noise-sensitive receptors, certain special status (i.e., federally protected) wildlife species (typically nesting birds) can be considered noise-sensitive receptors. The identification and location of these species within the Proposed Action Alternatives are discussed in Section 3.7.10.3.5 (Biological Resources) and shown in Figure 3.7-7 (Sensitive Wildlife Species). The occurrences of protected bird species and habitat have been identified within the shoreline area west of the Proposed Action footprint. Potential impacts to these species due to proposed construction activities (including noise) are addressed in Section 3.7.10.3.5, and mitigation measures are identified in Section 5.7.2.3, including the establishment of a setback distance from construction and the use of noise baffling/barriers.

In addition to the construction, there would be a temporary increase in heavy-duty truck traffic during delivery of construction equipment and materials and during hauling of demolition debris, as well as an increase in passenger vehicle traffic associated with construction workers. Once construction equipment is delivered to the site, it is expected to remain on the site until it is no longer needed or until it is replaced with other equipment. Construction worker traffic, material delivery, and off-site hauling of debris are expected to occur regularly throughout the construction period. Building 99 demolition and hauling of debris would occur first (during the first 2 years [2015–2016] of construction); therefore, less site development construction and materials hauling would occur during this demolition period. Conversely, once Building 99 demolition hauling is completed in 2016, the truck trips for demolition hauling would be replaced by truck hauling of construction materials and supplies for site development.

All construction traffic would initially access the project site from the northern entry control point. No construction traffic would be routed through the south gate.

While construction worker traffic is expected to access the site from various routes within the region, trucks would generally use designated truck routes. The greatest potential for construction traffic noise impacts would be along the routes where the greatest concentration of trucks and construction worker traffic travel occurs, which would be SR-75. The maximum number of construction-related trips for Alternative 1 would not double the existing traffic on area roadways (i.e., doubling traffic volume increases noise levels by 3 dBA, which is less than perceptible change to the human ear). Thus, traffic noise levels generated by construction traffic would not result in a substantial temporary increase in noise levels (i.e., +5 dBA) along project roadways.

Facility Operations

Operation of Alternative 1 (i.e., facilities use and on-site vehicle traffic) would increase ambient noise levels on SSTC-South in proximity to the constructed facilities and along on-site roadways. Noise would be generated from facilities operation (e.g., pumps, generators, fans, etc.) and maintenance (e.g., landscaping), physical fitness activities, and vehicle trips associated with the operation of the

constructed facilities, which would increase ambient noise levels in proximity to the constructed facilities and along roadways. Operational noise would be generated throughout the day and to a lesser degree into the evening. The effect of operational noise levels on sensitive receptors would be based on the proximity of sensitive receptors, and any shielding or barriers to noise generated by the facilities. The proposed site facilities would include state-of-the-art technology (i.e., "green" heating, ventilation, and air conditioning [HVAC] components with the goal of meeting LEED Silver certification standards) to minimize the operational noise levels of the HVAC facilities. Noise levels from HVAC equipment vary significantly depending on unit efficiency, size, and location. These noise levels can typically range from 45 to 70 dBA L_{eq} at 50 feet (USEPA 1971). Combining HVAC systems noise and existing ambient noise levels, the resultant ambient noise level could increase in proximity of the HVAC systems by more than 3 dBA (i.e., level audible to humans). Therefore, noise attenuation measures would be included in the design and the orientation of the HVAC exhaust vents to reduce operational noise levels.

Noise from ongoing training (U.S. Navy 2011c) is not expected to change nor would any current flight operations.

The City of Imperial Beach noise ordinance does not contain quantifiable noise-level limits at property lines, but regulates noise based on disturbance of "the peace, quiet, and comfort of the community by creating unreasonably loud or disturbing unnecessary noises." As shown in Table 3.6-1, sound levels up to 60 dBA CNEL are considered compatible by the City of Imperial Beach with land uses such as residences, transient lodging, schools, and medical facilities; conditionally acceptable from 60 to 70 dBA CNEL with appropriate sound mitigation; and unacceptable if the CNEL exceeds 70 dBA.

The additional noise sources of the constructed facilities and uses of Alternative 1 would add to the ambient noise levels within the project area. As discussed above, this area is representative of urban areas with a major transportation corridor; port activities of San Diego Bay; and aviation activities of San Diego International Airport, NASNI, and NOLF IB. The increase in operations at SSTC-South (facilities use and vehicle traffic) under Alternative 1 would not result in a substantial increase in ambient noise levels. Daily operational noise from Alternative 1 would occur no closer than 1,800 feet from Imperial Beach residences with the majority of the daily activity occurring approximately 3,200 feet away. The increase would not exceed the community noise exposure limits, shown in Table 3.6-1, for different land use types, which are used as compatibility guidelines for development within Imperial Beach.

Daily operational noise from Alternative 1 would occur as close as approximately 1,400 feet from the southern Coronado Cays residences, with the majority of the daily activity on SSTC-South occurring over 2,000 feet away. SR-75 and its daily vehicle traffic volumes are located between Coronado Cays and SSTC-South. In 2008, average sound levels from 2008 traffic volumes on SR-75 were estimated at 69 dBA at 100 feet from the centerline of the roadway (U.S. Navy 2011c). Therefore, traffic noise levels on SR-75, the primary noise source at the southern end of Coronado Cays, result in ambient noise levels higher than current operational noise levels from SSTC-South and anticipated future operational noise from Alternative 1.

Coronado Cays is subject to the City of Coronado noise ordinance, which contains quantifiable noise-level limits at property lines, as shown in Section 3.6.1.3. One-hour average sound levels at the boundary of residences such as Coronado Cays are limited to 50 dBA L_{eq} during the daytime hours (7:00 AM – 7:00 PM), 45 dBA L_{eq} during evening hours (7:00 PM – 10:00 PM), and 40 dBA L_{eq} during nighttime hours (10:00 PM – 7:00 AM). The nearest daily operational noise from Alternative 1 would occur at

approximately 1,400 feet from Coronado Cays residences, with the majority of SSTC-South operational noise occurring over 2,000 feet away. For example, operational noise levels of 70 dBA L_{eq} at 50 feet would attenuate over 1,400 feet to the worst-case noise limit scenario of 40 dBA L_{eq} at Coronado Cays at night (10:00 PM – 7:00 AM). Therefore, the increase in daily operational noise due to the operation of facilities under Alternative 1 (e.g., HVAC operation from buildings) would not exceed the community noise exposure limits for development within the City of Coronado.

Traffic volumes for Alternative 1 would not double the existing traffic on area roadways (i.e., doubling traffic volume increases noise levels by 3 dBA, which is less than perceptible change to the human ear). Thus, traffic noise levels due to Alternative 1 would not result in a substantial permanent increase in noise levels (i.e., +5 dBA) along project roadways. The increase would not violate Federal, Navy, state, regional, or local noise standards or requirements. Therefore, implementation of Alternative 1 would not have a significant impact to noise.

Mitigation Measures/Impact Avoidance and Minimization Measures

Mitigation Measures

No mitigation measures are proposed.

Impact Avoidance and Minimization Measures

To reduce noise impacts associated with project-related demolition activities, a detailed demolition and blasting plan for Building 99 would be prepared including public notification and complaint protocol.

Construction activities would generally be restricted to occur between 7:00 AM and 7:00 PM Mondays through Saturdays. On rare occasions, nighttime construction may be required but public notices would be posted for these activities.

To ensure that design and installation of stationary noise sources for Alternative 1 (i.e., HVAC systems) would reduce operational noise levels, the Navy would:

- Implement best design considerations and shielding, including installing stationary noise sources associated with HVAC systems indoors in mechanical rooms.
- Prepare an acoustical study(s) of proposed mechanical equipment, which shall identify all noise-generating equipment, predict noise-levels from all identified equipment, and recommended measures to be implemented (e.g., enclosures, barriers, site orientation) to reduce noise levels, as applicable, prior to the issuance of a building permit.

3.6.2.4 Alternative 2 – SSTC-South Bunker Retention Alternative

Impacts

The development of Alternative 2 would be similar to Alternative 1 and would include the same number and type of MILCONs. The Alternative 2 footprint would be similar to the Alternative 1 footprint. Alternative 2 would not include the demolition of Building 99 and, therefore, would not include the

anticipated noise levels associated with demolition of Building 99, (i.e., drilling, blasting, loading, and hauling). Alternative 2 would also include the demolition of other structures, generating noise from conventional demolition and loading/hauling of debris. Therefore, the overall average construction noise levels would be slightly less under Alternative 2 in 2015–2016 as compared to Alternative 1. As with Alternative 1, operation of the constructed facilities of Alternative 2 (i.e., facilities use and vehicle traffic) would increase ambient noise levels on SSTC-South; however, the increase would not result in a substantial increase in ambient noise levels; result in incompatible land use; or violate Federal, Navy, state, regional, or local noise standards or requirements. Therefore, implementation of Alternative 2 would not have a significant impact to noise.

Mitigation Measures/Impact Avoidance and Minimization Measures

Mitigation Measures

No mitigation measures are proposed.

Impact Avoidance and Minimization Measures

To reduce noise impacts associated with project-related demolition activities, a detailed demolition plan would be prepared including public notification and complaint protocol.

3.6.2.5 Alternative 3 – Multi-Installation Alternative

Impacts

Alternative 3 would include the same 24 MILCONs as Alternative 1; however, three of the MILCONs and a portion of a fourth would be constructed on other installations. All other MILCONs would be constructed generally within the same SSTC-South development footprint as Alternative 1.

Implementation of Alternative 3 would generate construction and operational noise levels similar to, or slightly less than, Alternative 2. As with Alternatives 1 and 2, Alternative 3 would generate construction noise that would be audible to residents of Imperial Beach and the Coronado Cays. However, noise from construction and daily operations would be no closer to Imperial Beach residences than 1,800 feet away, with the majority of the construction and daily activity noise occurring approximately 3,200 feet away and no closer to Coronado Cays residences than approximately 1,400 feet away, with the majority of the construction and daily activity noise occurring approximately 2,000 feet away.

Construction and operation of three MILCONs (P-904, P-912, and P-965) at NAB Coronado would generate construction and operational noise levels within a fairly small area around the proposed facilities. Noise from construction and daily operations would be approximately 1,000 feet away from the City of Coronado and approximately 1,300 feet from the nearest residence.

Construction and operation of a portion of a MILCON (P-870) at NASNI would also generate construction and operational noise levels within a fairly confined area. Noise from construction and daily operations would be approximately 1 mile from the City of Coronado and not in proximity to any sensitive receptors.

Alternative 3 would retain Building 99 and would generate noise levels similar to Alternative 2.

As with Alternatives 1 and 2, operation of the constructed facilities of Alternative 3 (i.e., facilities use and vehicle traffic) would increase ambient noise levels on SSTC-South, NAB Coronado, and NASNI; however, the increase would not result in a substantial increase in ambient noise levels; result in incompatible land use; or violate Federal, Navy, state, regional, or local noise standards or requirements. Therefore, implementation of Alternative 3 would not have a significant impact to noise.

Mitigation Measures/Impact Avoidance and Minimization Measures

Mitigation Measures

No mitigation measures are proposed.

Impact Avoidance and Minimization Measures

To reduce noise impacts associated with project-related demolition activities, a detailed demolition plan would be prepared including public notification and complaint protocol. Should Alternative 1 be selected, a separate blasting plan would be prepared for Building 99.

3.6.3 Unavoidable Adverse Environmental Effects

No unavoidable adverse environmental impacts are expected from noise during construction and operation of the Proposed Action.

3.6.4 Summary of Effects

Table 3.6-3 summarizes the noise effects of Alternatives 1, 2, 3, and the No Action Alternative.

Table 3.6-3
Summary of Potential Noise Effects of the Proposed Action Alternatives

Alternative	Effects	Mitigation Measures/ Impact Avoidance and Minimization Measures
No Action Alternative	No new construction or operational noise sources would be generated; therefore, ambient noise levels would not be affected and no noise impacts would occur.	Mitigation Measures: None Impact Avoidance and Minimization Measures: None
Alternative 1 – SSTC-South Bunker Demolition Alternative (Preferred Alternative)	Under Alternative 1, construction and operations of new facilities would add to the noise levels of the existing activities on SSTC-South and the area's ambient noise levels, which are characteristic of the urban environment and transportation activities (port and aviation) of the area. Alternative 1 would include the demolition of Building 99 in 2015–2016, which would generate noise from concrete drilling and sawing, blasting, concrete breaking, stockpiling, and truck hauling off-site. Temporary worst-case 8-hour averaged construction noise would be approximately 62 dBA at the Coronado Cays and 60 dBA at Imperial Beach. U.S. Navy and City of Imperial Beach regulations do not limit the decibel levels of construction noise; however, the City of Coronado (Coronado Cays) limits daytime construction noise levels to 75 dBA L_{eq}. The City of Imperial Beach prohibits construction noise at night between 10:00 PM and 7:00 AM. Nighttime construction is not likely to occur. Operation of Alternative 1 (i.e., facilities use and vehicle traffic) would increase ambient noise levels on SSTC-South; however, the increase would not result in a substantial increase in ambient noise levels; result in incompatible land use; or violate Federal, Navy, state, regional, or local noise standards or requirements. Therefore,	Mitigation Measures: None Impact Avoidance and Minimization Measures: To reduce noise impacts associated with project-related demolition activities, a detailed demolition and blasting plan for Building 99 would be prepared including public notification and complaint protocol.

Alternative	Effects	Mitigation Measures/ Impact Avoidance and Minimization Measures
	implementation of Alternative 1 would not have a significant impact to noise.	
Alternative 2 – SSTC-South Bunker Retention Alternative	Alternative 2 would retain Building 99; therefore, the associated demolition and hauling noise described for Alternative 1 would not occur. All other construction and operation noise would be similar to Alternative 1. Therefore, implementation of Alternative 2 would not have a significant impact to noise.	Mitigation Measures: None Impact Avoidance and Minimization Measures: To reduce noise impacts associated with project-related demolition activities, a detailed demolition plan would be prepared including public notification and complaint protocol.
Alternative 3 – Multi-Installation Alternative	Under Alternative 3, construction and operations of new facilities would be similar to Alternatives 1 and 2. Alternative 3 would retain Building 99 generating noise levels similar to Alternative 2. Construction and operations of Alternative 3 would not result in any significant noise impacts at NAB Coronado or NASNI. Therefore, implementation of Alternative 3 would not have a significant impact to noise.	Mitigation Measures: None Impact Avoidance and Minimization Measures: To reduce noise impacts associated with project-related demolition activities, a detailed demolition plan would be prepared including public notification and complaint protocol.

1
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3.7 BIOLOGICAL RESOURCES

This section describes the plant and wildlife species that occur or have the potential to occur within or adjacent to the Proposed Action, and, thus, may be directly or indirectly affected. Throughout this section, and for project-specific impact analyses in Section 3.7.9, discussions of these resources are organized as follows: (1) plant communities and other cover types, (2) waters of the U.S., (3) federally listed plants, (4) nonfederally listed special-status plants, (5) federally listed wildlife, (6) critical habitat, (7) nonfederally listed rare wildlife, and (8) wildlife corridors.

Existing condition information portrayed in the text and tables includes biological resources located within or adjacent to the Proposed Action alternatives. The figures in this section illustrate the spatial distribution of biological resources under existing conditions, and focus on the project limits associated with each alternative.

No marine resources coincide with the Proposed Action. No construction activities associated with the Proposed Action would involve disturbance to the Pacific Ocean, San Diego Bay, or other water body. All potential runoff created by construction and operation would be subject to SWPPP and BMP guidelines, which are detailed in the previous Section 3.5. The Proposed Action would be entirely confined to terrestrial habitats; therefore, no marine resources will be discussed in this document.

3.7.1 Region of Influence and Survey Methods

To provide for an appropriate environmental analysis, a Biological Study Area (BSA) was established for biological resources that are of importance or that are protected under Federal law or statute. For biological resources, the ROI is the BSA for each of the resources and includes all areas that may be subject to physical disturbance from the Proposed Action alternatives. The BSA is the area on SSTC-South used for focused biological studies conducted for the Proposed Action. The BSA for floral and faunal species includes all areas west of SR-75 on SSTC-South, excluding beach habitat. In general, the BSA does not include a buffer outside of or around SSTC-South because either open water or urban development surrounds SSTC-South. For the purpose of vegetation mapping and special status plant surveys, botanists walked the dune habitat to the west of the Proposed Action footprint outside of the perimeter fence around SSTC-South. The BSA for all other surveys includes the Proposed Action footprint and any surrounding habitat within the fenced area of SSTC-South. Historical data from previous survey efforts were used to supplement the analysis within this EIS for areas outside of the BSA (for example, areas on the east side of SR-75 [including the San Diego National Wildlife Refuge] and areas north of SSTC-South) that might be impacted by the Proposed Action. The following subsections describe the survey methods used to assess the existing biological conditions of the BSA. The BSA includes Alternatives 1, 2, and the SSTC-South based components of Alternative 3.

Information about the biological resources is based on existing data and project-specific biological surveys. In addition to the surveys described below, available biological data were reviewed and analyzed to further describe the BSA. The following sources were reviewed to obtain relevant biological data previously collected within SSTC-South, NASNI, and NAB Coronado:

- NBC INRMP (U.S. Navy 2013c);
- Final Biological Resources Survey Report for the Naval Radio Receiving Facility, Naval Base Coronado, San Diego, California (RECON 2004);

- Natural Resources Inventory Report for Naval Air Station North Island, Naval Base Coronado, San Diego, California (RECON 2006);
- Final Report Naval Special Warfare West Coast Master Plan (U.S. Navy 2009c);
- San Diego Bay Avian Surveys 2009–2010 (Tierra Data 2011);
- Silver Strand Training Complex Environmental Impact Statement (Silver Strand Training Complex EIS) (U.S. Navy 2011b);
- California Department of Fish and Game (CDFG) California Natural Diversity Database (CNDDB) (CDFG 2012);
- USFWS Special-Status Species Database (USFWS 2012);
- California Least Tern and Western Snowy Plover Monitoring Yearly Reports (San Diego Zoological Society 2011, 2012, and 2013); and
- Final Report, Results of Protocol Surveys for Listed Fairy Shrimp, Silver Strand Training Complex-South, Naval Base Coronado (ICF 2012)

Data from these sources were used to supplement data collected for this EIS between 2011 and 2013.

For Alternative 3 proposed project areas that occur on NASNI and NAB Coronado, historical biological surveys conducted by RECON for the Natural Resources Inventory Report for Naval Air Station North Island (RECON 2004) and surveys in support of the NBC INRMP were used to determine potential species occurrence. No biological surveys were conducted on NASNI or NAB Coronado in support of the NBC Coastal Campus EIS during 2011 and 2012.

Existing data include geographic information system (GIS) data from the Navy, which provided information on the status, distribution, and known locations of sensitive biological resources within and surrounding the BSA. The GIS database is routinely updated with recent data on threatened and endangered species and their habitats. Additional GIS data on soils, listed species critical habitat, and other pertinent information were gathered to analyze potential impacts from the Proposed Action.

3.7.1.1 Plant Communities and Habitat Assessments

Before any botanical surveys, historical data were reviewed to document previous findings from surveys and literature, listed above.

Project botanists mapped plant communities on SSTC-South from 29 February through 12 June 2012. Plant community mapping was conducted using digital mapping tools capable of displaying aerial ortho-photographs, topographic relief, and other digitized geographic data at any scale. Field surveys were assisted by existing vegetation community maps. The SSTC EIS (U.S. Navy 2011b) used data from RECON (2004) and a vegetation plant classification that followed Sawyer and Keeler-Wolf (1995) and Holland (1986). Consistent with the *Silver Strand Training Complex Environmental Impact Statement* (U.S. Navy 2011b), vegetation in this report is described using Holland plant community names, with cross-reference to the more current Sawyer et al. (2009). During plant community mapping, a habitat

suitability assessment for federally listed species was conducted. The vegetation cover types for SSTC-South are displayed in Figure 3.7-1a and for NAB Coronado and NASNI are displayed in Figure 3.7-1b.

A habitat assessment was conducted before any wildlife surveys, which included a review of historical data and field verification on SSTC-South. Historical sources were reviewed to understand which species had the potential to breed, forage, and migrate through the BSA. Historical sources were reviewed to determine what biological surveys had been conducted to date. After this review, project biologists conducted a site survey to determine which faunal species would require specific surveys based on suitable habitat.

3.7.1.2 Wetland Delineations

A formal jurisdictional delineation, which encompasses the BSA, was conducted by RECON in 2002 (RECON 2004) pursuant to the procedural guidelines and criteria outlined in the Corps of Engineers Wetlands Delineation Manual (1987 Manual) (Environmental Laboratory 1987). This wetland delineation was reviewed and updated pursuant to the following:

- Conducting a reconnaissance survey of the BSA and comparing current (August 2012) baseline conditions (type, location, and extent) of jurisdictional aquatic features occurring at the BSA with the results of the 2002 wetland delineation.

- Applying the latest procedural guidelines and criteria in the 1987 Manual and the 2008 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0) (Regional Supplement) (Environmental Laboratory 2008), with the results of the 2002 wetland delineation (RECON 2004).

- Determining the potential jurisdictional status of federally regulated waters occurring within the BSA (e.g., Rapanos v. United States [126 S. Ct 2208] [2006]) and within the rubric of the 5 May 2007, USACE Jurisdictional Determination Form Instructional Guidebook (USEPA 2007), USACE Regulatory Guidance Letter 08 02, and all other relevant and applicable guidance memorandums for potential jurisdictional waters (including wetlands).

After review of the 2002 Wetland Delineation (RECON 2004), a field reconnaissance of the BSA was conducted to confirm the 2002 Wetland Delineation (RECON 2004). Baselines, types, and extents of all potential jurisdictional waters (including wetlands) and uplands occurring within the BSA were confirmed in the field. Based upon the Wetland Delineation (RECON 2004) and 2012 field reconnaissance conducted by AECOM, all delineated and potential aquatic features are to be avoided with the greatest extent feasible. No waters of the U.S. (including federally defined wetland) occur within the main coastal campus area of the Proposed Action. There are a few small areas of jurisdictional waters (in the form of three culverts that pass underneath Hooper Boulevard in the southern portion of SSTC-South) that would be crossed by proposed utility lines. Both the proposed sewer and natural gas lines would be trenched into Hooper Boulevard and therefore cross waters of the U.S. Jurisdictional waters of the U.S. within SSTC-South as delineated in 2002 by RECON and in the areas where proposed utility lines cross both unvegetated other waters and wetland waters of the U.S. as shown in Figure 3.7-2.

3.7.1.3 Federally Listed and Special Status Plant Surveys

Botanical surveys were conducted at SSTC-South in 2012 for the preparation of this EIS. Fieldwork was done 29 February, 12 March, and 16 March 2012, with follow-up surveys for specific plant species on 12 July 2012. The entire BSA was walked, and biologists recorded current vegetation and compared it with previous mapping and surveys. All plant species were recorded or noted for later identification. A plant species list is in Appendix C. Reference sites were visited for verification of the presence and phenology of several special status plant species along Silver Strand State Beach and Sweetwater Marsh National Wildlife Refuge (D Street Fill). Special status plants were documented and mapped with GIS. Plant identification followed the Jepson Manual, Second Edition (Baldwin et al. 2012).

Vegetation mapping was conducted to express the current condition of the vegetation in the field and to compare previous mapping efforts (as in RECON 2004 and U.S. Navy 2011b) that used classification systems of both the California Manual of Vegetation (Sawyer and Keeler-Wolf 1995) and Holland 1986. In this report, these systems are described using Holland plant community names to integrate these systems, for uniformity in structure and function of vegetation types, and to simplify impact analysis. The convention for this report for the common names of plants is according to *Checklist of the Vascular Plants of San Diego County* (Rebman and Simpson 2006).

The vegetation cover types for SSTC-South are displayed in Figure 3.7-1a and for NAB Coronado and NASNI are displayed in Figure 3.7-1b. The complete special status plant survey report is located in Appendix C. Two federally listed plants, Salt marsh bird's beak and Coastal dune milk vetch, have the potential to occur on SSTC-South, and surveys were conducted for the Proposed Action alternatives to determine their status and occurrence.

Salt Marsh Bird's Beak

Salt marsh bird's beak (*Chloropyron maritimum* ssp. *maritimum*; formerly named *Cordylanthus maritimus* ssp. *maritimus*) is a federally endangered plant that occurs at YMCA Camp Surf. No suitable habitat for this species exists within the Proposed Action footprint of Alternative 1, 2, or 3 or the extension of utility lines outside of the footprints. The known location of salt marsh bird's beak would not be impacted by any of the Proposed Action alternatives or utility improvements (SERG 2012).

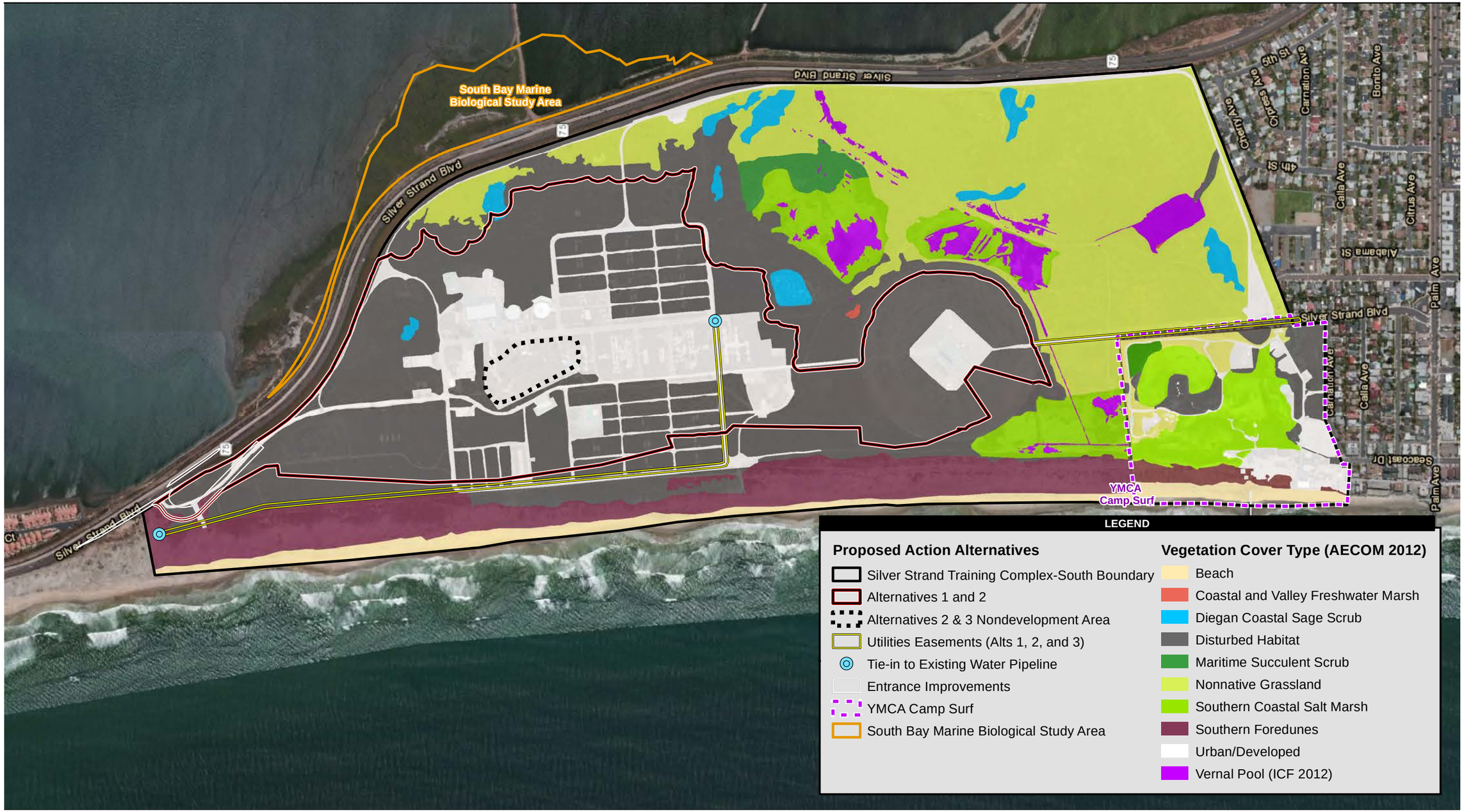
Coastal Dune Milk Vetch

Coastal dune milk vetch (*Astragalus tener* var. *titi*) is a Federal and state endangered annual that was historically found on the beaches of Silver Strand at SSTC-North; this species was last collected in 1938 and is presumed extirpated.

No other threatened or endangered plants are known within SSTC-South. The locations of federally listed and special status plants found on SSTC-South are depicted in Figures 3.7-3a and 3.7-3b.

3.7.1.4 Avian Surveys

Avian surveys were conducted within SSTC-South for 1 year to inventory resident and migratory species, determine how and when these species use SSTC-South, and estimate the distribution and relative abundance for each species detected. To meet these objectives, ornithologists conducted bird use counts



Source: ICF 2012; ESRI; CPEN; AECOM 2012

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Scale: 1:7,500; 1 inch = 625 feet

Figure 3.7-1a
Existing Vegetation and Cover Type Map

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Source: ESRI 2013

*See Figure 3.7-1a for detail of vegetation and cover types on SSTC-South.

Scale: 1:60,000; 1 inch = 5,000 feet
Inset Scale: 1:4,800; 1 inch = 400 ft

Figure 3.7-1b
Existing Vegetation and Cover Type Map - Alternative 3

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(BUCs) and bird area searches (BASs). BUCs and BASs were conducted weekly in the spring (March through May 2012) and every 2 weeks in the summer (June and July 2012). They were conducted weekly in the fall (August through October 2012) and every 2 weeks in the winter (November through February 2013) for a total of 39 surveys. Survey locations were selected to maximize the number of avian detections in each habitat type. Avian species detected while walking or driving between BUCs and BASs were recorded as incidental species. The BSA for avian surveys included all habitats within the fenced area of SSTC-South. This encompassed all habitats to the west of SR-75, excluding YMCA Camp Surf and the beach training areas along the west side of SSTC-South. Avian surveys were initiated in February 2012 and were completed in February 2013. The locations of the BUCs and BASs are depicted in Figure 3.7-4.

3.7.1.4.1 Bird Use Counts

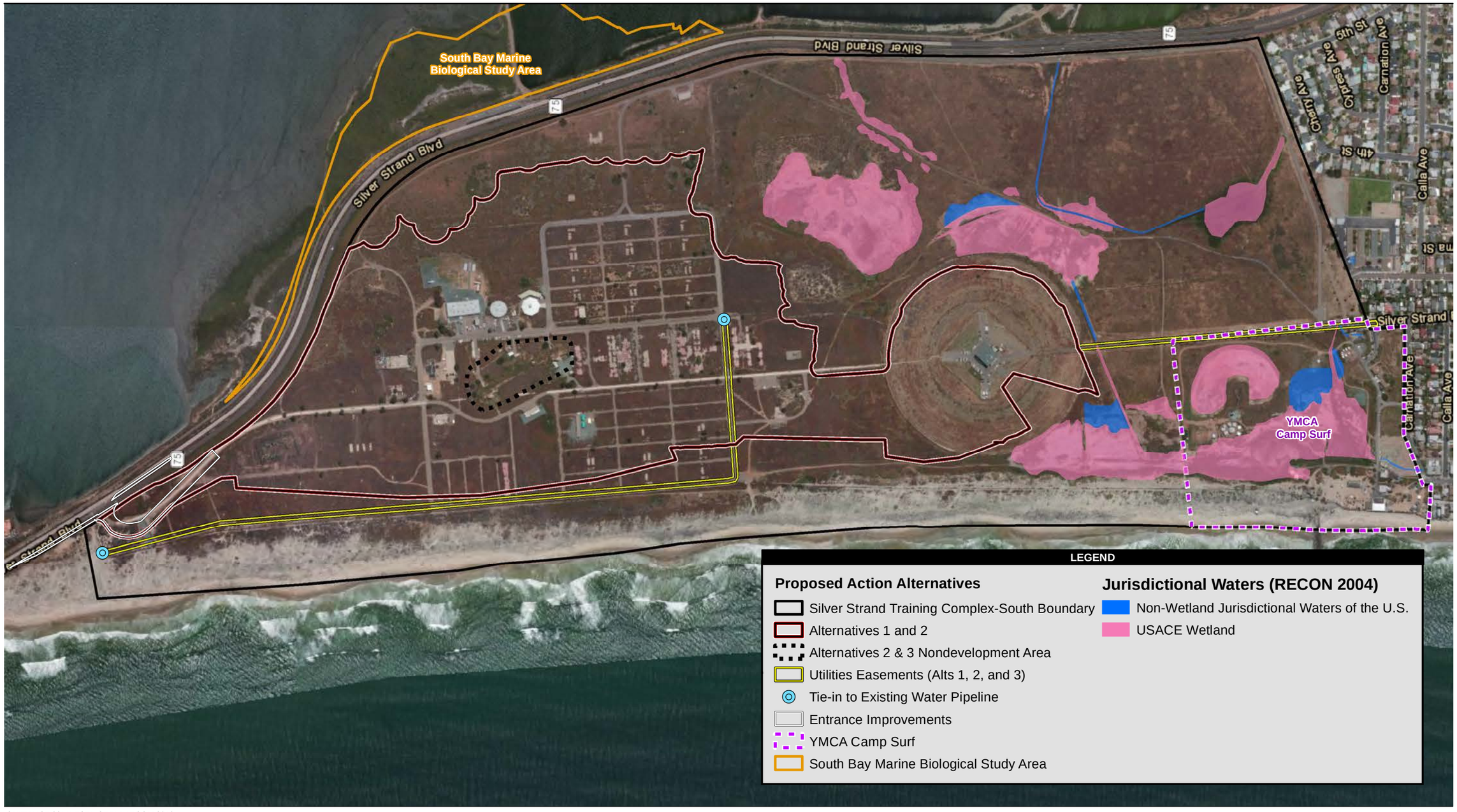
BUCs involve the use of a variable circular plot count (Reynolds et al. 1980; Siegel 2000) with a fixed radius (approximately 330 feet) to determine bird use at a specific location. An ornithologist recorded bird detections and their distance from a single vantage point for a specified time period. This survey technique provides baseline information on resident and migratory bird species occurrence and composition, their behavior, and their spatial use of the area around the BUC. Data collected over 1 year provided information on the seasonal distribution, relative abundance, and spatial use of the project site. By remaining stationary, ornithologists are more likely to determine if a species is migratory or resident by observing behaviors such as courtship displays, territorial disputes, nest building, and feeding young.

Eight BUCs were placed throughout the BSA: four BUCs within the Proposed Action footprint and four outside (Figure 3.7-4). This allowed for comparison of avian use within the disturbed/urban habitat of the Proposed Action footprint and the native habitat outside the Proposed Action footprint. BUCs outside the Proposed Action footprint were placed in a variety of habitats to maximize the number of avian species detected. BUCs were conducted by an ornithologist remaining stationary for 15 minutes. All bird detections (both aural and visual) were recorded. BUCs were conducted between approximately first light and 12 noon, coinciding with typical peak diurnal avian activity.

At each BUC the following general data were recorded: date, survey and BUC number, survey start and stop time, observer, weather data (air temperature, wind speed and direction, visibility, and cloud cover). When a bird was detected, the following data were recorded for each observation: avian species age and sex, number of individuals, 5-minute time increment when observed, distance and direction from observer, activity (foraging, perched, soaring, hunting, etc.), if the observation was a flyover (bird was not using the site and just flying overhead), direction of flight, average flight height of sensitive avian species, and if the detection was visual or auditory. The distance from an observer to a bird was estimated using a laser rangefinder (Bushnell Elite 1500). Surveys did not occur during inclement weather such as rain, dense fog, or high winds (sustained at more than 20 miles per hour) that would inhibit avian detection. Data were entered into a database for analysis.

3.7.1.4.2 Bird Area Search

The second method of detecting birds involved an observer slowly walking a fixed-length meandering transect through habitat with the goal of finding as many bird species as possible. These searches were conducted to locate any sensitive bird species that could go undetected during BUCs because they are either secretive or not easily observed. Additionally, BASs were designed to detect any secretive nesting



Source: ICF 2011; ESRI; CPEN; AECOM 2012

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Scale: 1:7,500; 1 inch = 625 feet

Figure 3.7-2
Jurisdictional Waters (Including Wetlands)

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Source: ESRI; AECOM 2012

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Scale: 1:7,500; 1 inch = 625 feet

Figure 3.7-3a
Special Status Plant Species

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Source: ESRI 2013

Scale: 1:79,200; 1 inch = 1.25 miles
Inset Scale: 1:6,600; 1 inch = 550 ft

Figure 3.7-3b
Special Status Plant Species on NASNI and NAB Coronado within Alternative 3 Boundary

Path: P:\2011\60236207\06GIS\6.3_Layout\EIS\November_2014\fig3_7_3b_Alt3_SensSP.mxd, 11/24/2014, SorensenJ

birds by walking through habitat. BASs also permitted multiple small or linear habitat patches to be sampled by walking through them. BASs were placed in locations that are difficult to sample from a single BUC, such as linear habitat patches. Observers recorded all birds detected while walking a fixed route to standardize data collection. BASs were used to determine species diversity, use of the BSA, and relative abundance. BASs are not generally used to determine species density since they do not take into account the distance between the observer and a bird.

Five BASs were spread throughout the BSA, with emphasis on the Proposed Action footprint (Figure 3.7-4). BASs were placed in locations to maximize the number of avian species detected and coverage of the BSA. BASs were spaced far enough apart to minimize the potential for double counting. BASs were conducted on the same day as BUCs, and ornithologists recorded birds for 30 minutes on each BAS. Ornithologists recorded all birds within 330 feet of either side of the BAS, including birds flying overhead. BASs varied in length from approximately 1,600 feet to 2,150 feet depending on plant communities and habitat patches to be sampled. BASs occurred between approximately first light and 12 noon.

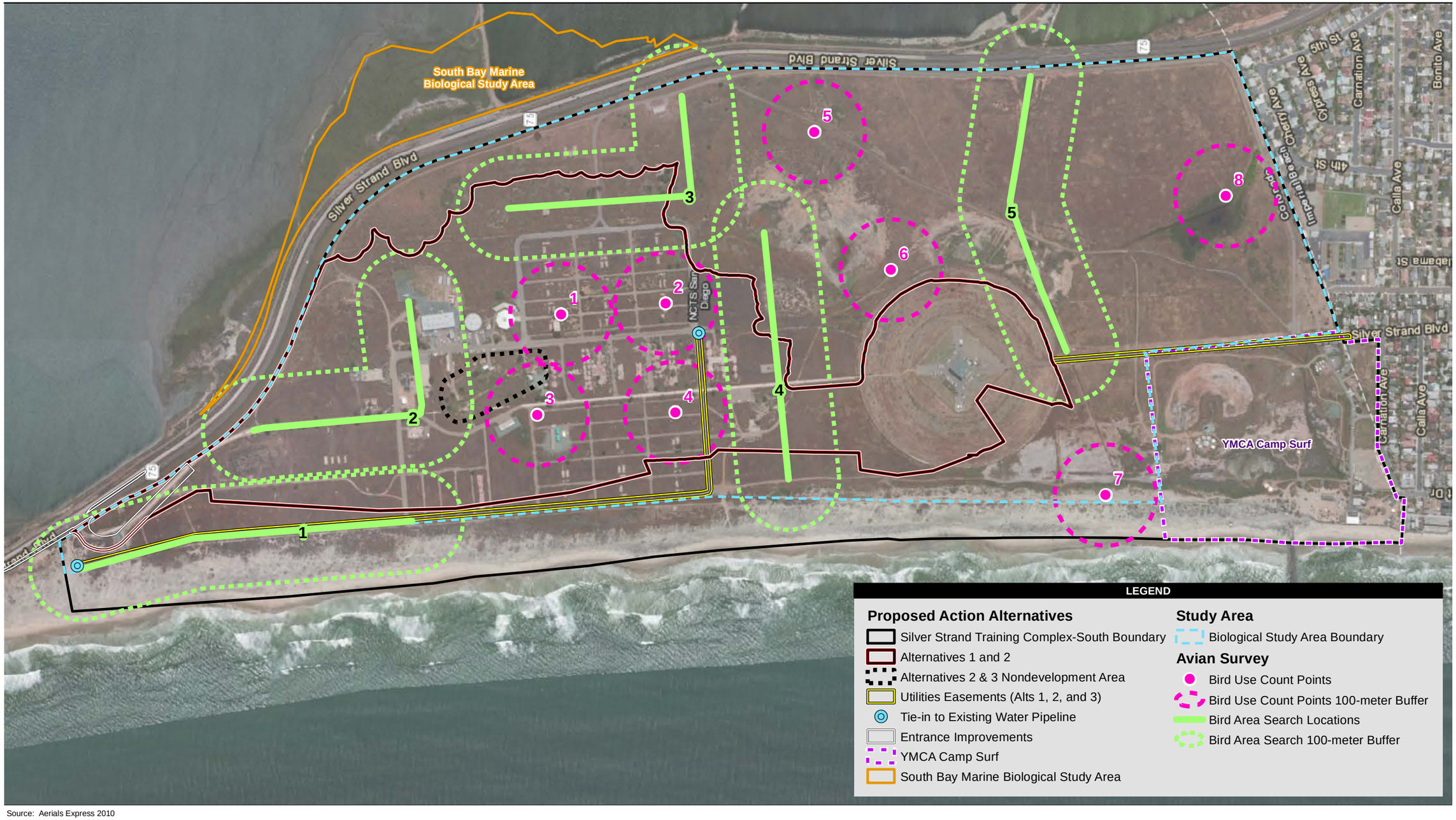
At each BAS, the following general data were recorded: date, survey and BAS number, survey start and stop time, observer, weather data (air temperature, wind speed and direction, visibility, and cloud cover). When a bird was detected, the following data were recorded for each observation: avian species age and sex, number of individuals, total number of each species, if the observation was a flyover (bird was not using the site and just flying overhead) and height, if the detection was visual or auditory, the global positioning system (GPS) location and time of observation for sensitive avian species, and any breeding or behavioral notes. Surveys did not take place in inclement weather such as rain, dense fog, or during high winds (sustained at more than 20 miles per hour) that would inhibit avian detection. All data were entered into a database for analysis.

The complete details of the Avian Summary Report conducted for the Proposed Action is located in Appendix C and a brief summary of avian species detected is provided in Section 3.7.8.2.

3.7.1.5 Bat Surveys

Since limited existing data are available on bat use of SSTC-South, several methods of detecting bats were used to understand potential bat use of SSTC-South for migration, roosting, and foraging. Roost site/hibernacula searches, acoustic monitoring, and thermal imaging were conducted to characterize bat use within SSTC-South. Two main methods were used to search for bat use of SSTC-South: active bat surveys (acoustic monitoring via echolocation recording) and roost surveys (day surveys and night surveys).

Before conducting active and passive bat surveys, vegetation mapping and topography were reviewed to identify potentially suitable tree roosts and foraging areas within SSTC-South. The same BSA used for avian surveys was also used for bat surveys. This included all habitats within the fenced area of SSTC-South. This encompassed all habitats to the west of SR-75, excluding YMCA Camp Surf and the beach training areas along the west side of SSTC-South. Transects walked and locations of thermal imaging scans were recorded and are shown in Figure 3.7-5.



Source: Aerials Express 2010

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Scale: 1:7,500; 1 inch = 625 feet

Figure 3.7-4
Avian Survey Locations

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Source: ICF 2012; ESRI; CPEN; AECOM 2012

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Scale: 1:7,500; 1 inch = 625 feet

Figure 3.7-5
Bat Survey Results

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3.7.1.5.1 Survey Timing

Surveys occurred over a 2-week period in August and October 2012. During each survey period, 4 nights were sampled based on ideal weather conditions to detect bats. An additional night of sampling was added in August due to inclement weather during one of the surveys. Thus, 9 nights of surveys were conducted. Surveys in August were aimed at capturing summer resident bat species, and surveys in October were aimed at capturing migrating bat species. Surveys occurred from dusk to approximately 11:00 PM. Bat survey methods, including acoustic monitoring and roost site searches, are described below.

3.7.1.5.2 Acoustic Monitoring (Echolocation Recording)

Biologists conducted active acoustic monitoring throughout the BSA using AnaBat™ Bat Detectors, thermal imaging cameras (Raytheon), and associated hardware and software for analysis. Location data for active monitoring were recorded using a global positioning system (GPS) device tied to the AnaBat unit. Biologists walked and drove established roads within the BSA and stopped periodically to record potential bat echolocation calls. Surveys focused on old buildings (with spaces under the roof or cracks under rafters), bunkers, trees, and marsh or ponded areas.

A thermal imaging camera was used to estimate the number of bats present along the survey route (relative abundance) and document the behavior of the bats (commuting, foraging, drinking, etc.). The thermal camera was also used to estimate the height that the bats were flying above the ground.

The identification of bat species based on echolocation calls relied on the analysis of a number of call parameters: base frequency, call shape (slope as measured in octaves per second and overall pattern), pattern of calls within a sequence, inter-pulse interval, and call duration (Pierson et al. 2006). Each spectrogram of bat echolocation call was visually compared to a library of spectrograms of known bat species to determine species identity. Due to identification constraints, only those spectrograms that could be reliably matched to the spectrograms of known species were identified to the species level; otherwise, they were identified to the genus level.

Data collected during acoustic monitoring included species identification, number of bats present (facilitated through the use of thermal imaging), and location/distribution. The ambient temperature, humidity, and wind were recorded at hourly intervals.

The bat survey report is located in Appendix C and no bat species were recorded within the BSA. During survey on 23 August 2012, two canyon bats (*Parastrellus hesperus*) were recorded in flight outside and to the southeast of the BSA and are depicted in Figure 3.7-5. The canyon bat is not considered a species of special concern by the California Department of Fish and Wildlife (CDFW).

3.7.1.5.3 Roost Site Searches

Roost site/hibernacula searches were conducted within the BSA around buildings, trees, bunkers, culverts, and other locations where bats could roost. Biologists searched for signs of bats such as urine stains and guano. The presence of guano or urine staining may not necessarily indicate that bats are currently using a roost site, but inform the suitability assessment of the potential roost site. Biologists searched all potential roost sites/hibernacula during the day before evening bat acoustic surveys. Any

potential roost sites or hibernacula were revisited during evening bat surveys to determine if they were active, and if so, which bat species were present.

No bat roost sites or hibernacula were detected during surveys.

3.7.1.6 Federally Listed Wildlife Surveys

Focused wildlife habitat assessments were conducted for the Proposed Action, and suitability for listed wildlife species was determined. Based on habitat suitability assessments, the only federally listed species with the potential to occur and breed within the BSA are San Diego fairy shrimp (*Branchinecta sandiegonensis*) and Pacific pocket mouse (*Perognathus pacificus longimembris*). Western Snowy Plover (*Charadrius nivosus nivosus*) breeds just outside and to the west of the BSA on the beaches of SSTC-South, and Light-footed Ridgway's Rail (*Rallus obsoletus levipes*) breeds to the east of the BSA in the South Bay Marine Biological Study Area on the east side of SR-75. The most recent survey methodologies for federally listed wildlife species conducted within the BSA and on SSTC-South are detailed below.

3.7.1.6.1 San Diego Fairy Shrimp Surveys

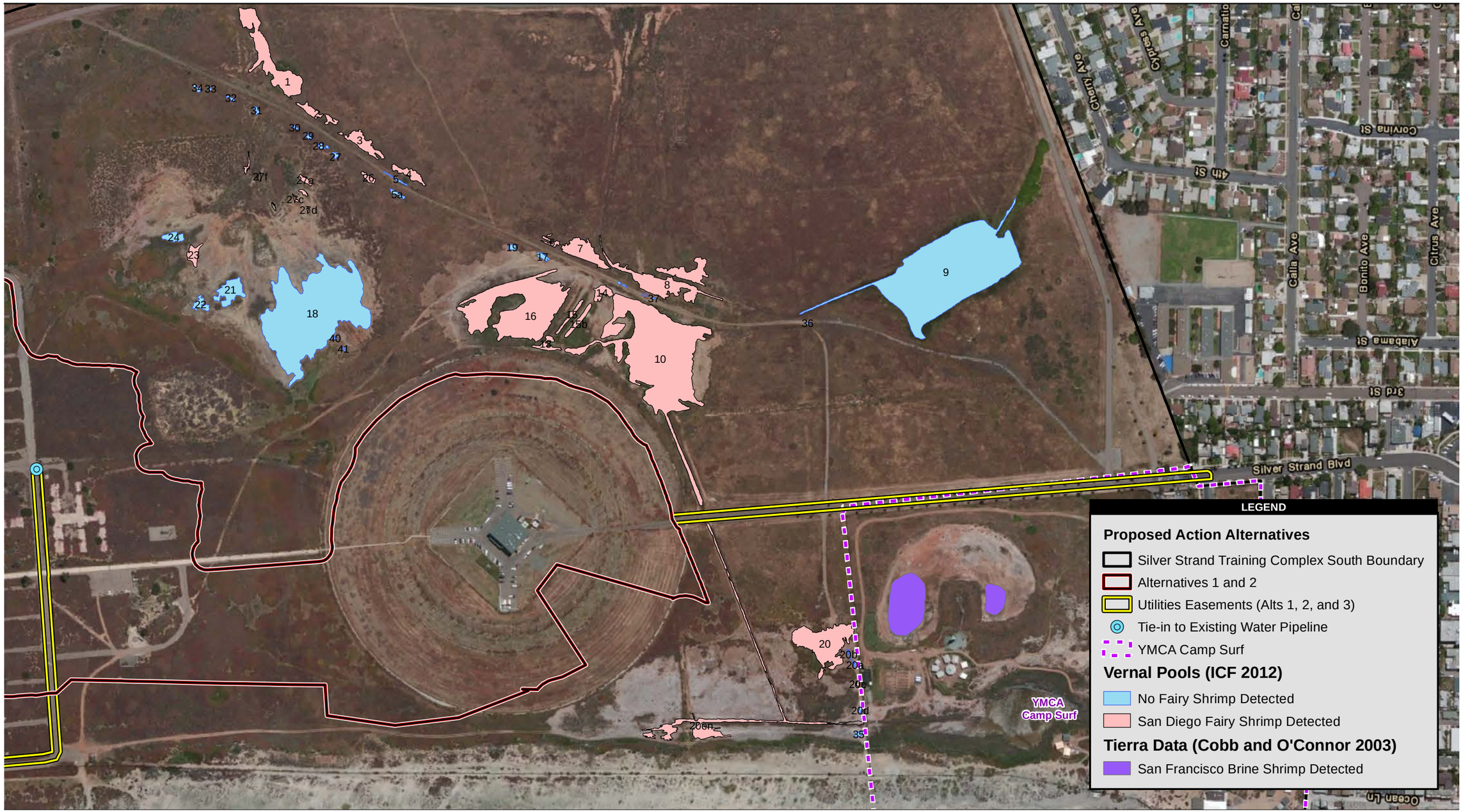
The most recent surveys for the federally endangered San Diego fairy shrimp were conducted during the winter of 2010 and spring of 2011 (ICF 2012). ICF conducted protocol wet- and dry-season surveys, thereby giving the most accurate occupancy data for basins on SSTC-South. Protocol wet-season surveys were conducted during the 2010–2011 rainy season. Pools that met inundation criteria (per USFWS 1996 survey protocol guidelines) and had San Diego fairy shrimp in them were not surveyed again. Basins that did not have sufficient inundation, or that had no fairy shrimp detected during wet-season surveys, were surveyed again during the dry season. Dry-season surveys were conducted according to USFWS 1996 guidelines during the summer of 2011 after all pools had dried out. Any cysts collected were incubated, hatched, and reared until mature enough to determine species. The full details of the survey methodology for wet- and dry-season surveys, results, and conclusions are located in the ICF 2012 report, which is included as Appendix C. Results of wet- and dry-season surveys in 2010–2011 are depicted in Figure 3.7-6.

3.7.1.6.2 Western Snowy Plover Surveys

The most recent surveys for the federally threatened Western Snowy Plover were conducted in the spring and summer of 2012 and 2013. Surveys are conducted annually by the Navy, and the most recent surveys were carried out by the San Diego Zoo between 2011 and 2013 (San Diego Zoological Society 2011, 2012, and 2013). Surveys are conducted by permitted biologists familiar with Western Snowy Plovers. All data of nest locations from Western Snowy Plover surveys from 2011, 2012, and 2013 are displayed in Figure 3.7-7.

3.7.1.6.3 Pacific Pocket Mouse Surveys

On 15 March 2012, a site-specific review of the potential Pacific pocket mouse trapping sites was performed by project biologists. The entire BSA and surrounding area within SSTC-South was walked to assess the potential for Pacific pocket mouse to occur. Although the majority of the BSA does not represent suitable habitat for Pacific pocket mouse, small isolated areas representing extremely low-



Source: ICF; ESRI; AECOM 2012

350 175 0 350 Feet

Scale: 1:4,200; 1 inch = 350 feet

Figure 3.7-6
Fairy Shrimp Survey Results

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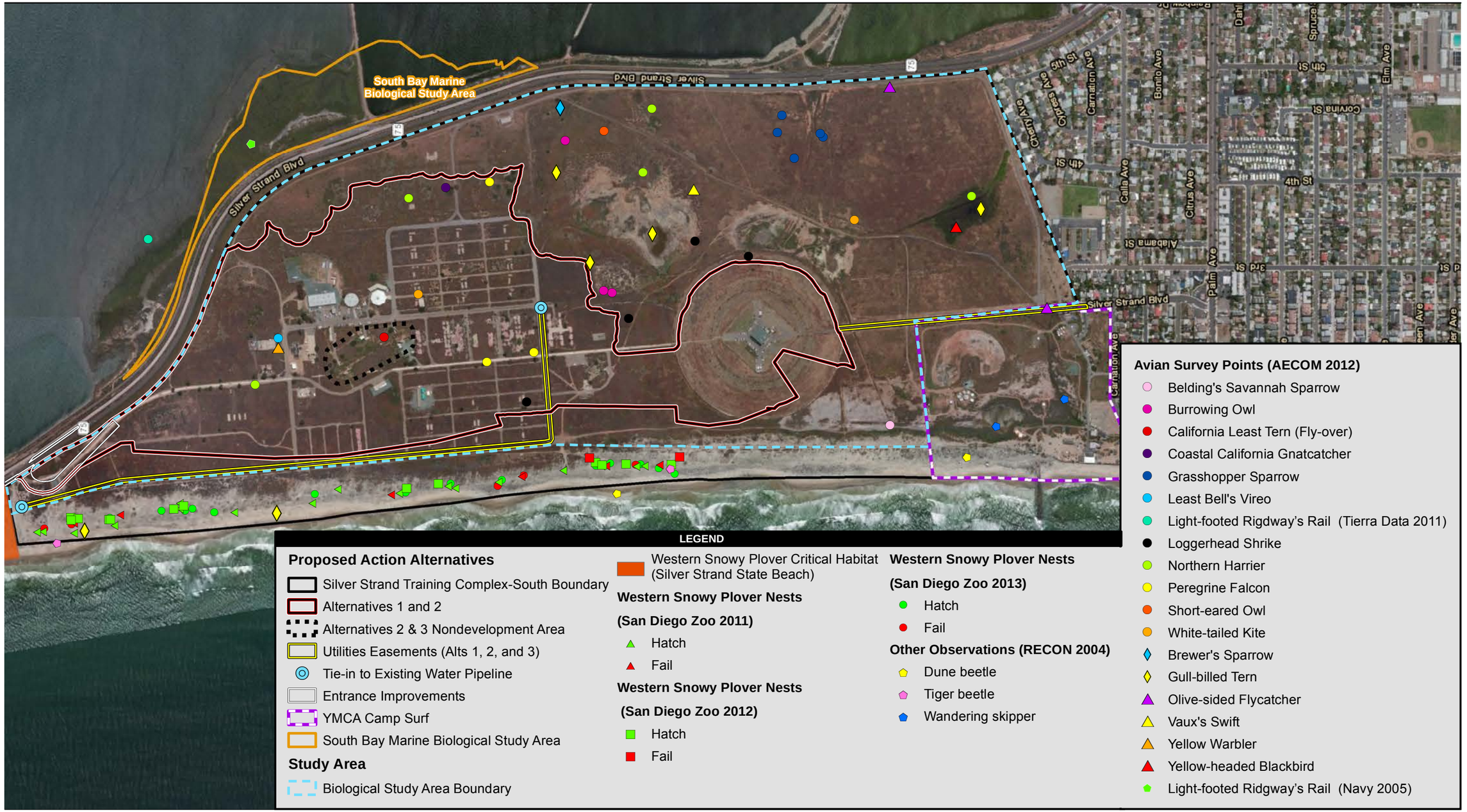

Source: U.S. Navy 2011-2012; ESRI; AECOM 2012

700 350 0 700 Feet

Scale: 1:8,400; 1 inch = 700 feet

Figure 3.7-7
Sensitive Wildlife Species

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quality habitat with moderate to low small-mammal activity was documented. Before Pacific pocket mouse trapping in July 2012, historical data for the BSA were reviewed. The closest historic Pacific pocket mouse population (1932 last confirmed observation) is approximately 2 miles south within the Tijuana River Valley, San Diego County (Erickson 1993). The closest Pacific pocket mouse population is currently on Marine Corps Base Camp Pendleton (MCBCP), more than 50 miles north of SSTC-South. There is no natural habitat connecting the BSA with a known Pacific pocket mouse population.

A review of historical Pacific pocket mouse trapping was conducted for SSTC-South (by RECON in 2002 and summarized in RECON 2004). During the RECON trapping effort, trapping was conducted 8 to 13 July 2002. Four transects of 40 traps each were placed in habitat with sandy soils. Each trap was set and checked according to the USFWS pocket mouse trapping guidelines (USFWS 2000a). No Pacific pocket mice were captured.

Before setting traps in 2012, the entire BSA, plus all other potentially suitable habitat on SSTC-South, was assessed to identify potential habitat for the Pacific pocket mouse, document small-mammal activity, and determine trapping areas and transect placement. Biologists walked throughout SSTC-South to determine the most optimal trap locations and areas with potentially suitable Pacific pocket mouse habitat. Traps were placed in those portions of the BSA and other potentially suitable locations where small-mammal burrows, soils, and/or suitable vegetation were documented.

Since the proposed trapping sites contained low-quality habitat, a focused trap line approach was used. Specifically, traps were placed adjacent to those isolated regions where low-density small-mammal burrow activity was documented. Surveys followed the USFWS (2000a) survey protocol guidelines. All traps were located in areas that best typify Pacific pocket mouse habitat, and trapping was conducted for a minimum of 5 consecutive nights. Both 9-inch and 12-inch Sherman live traps were placed in an alternating pattern. Traps were set each evening and checked in the early morning. Trapping was not conducted if the nightly low temperature was forecast to be below 50°F or if extended wind, rain, or other inclement weather (e.g., fog) made conditions unsuitable for trapping or would unduly jeopardize the lives of pocket mice.

All trapping was conducted by a USFWS permitted biologist from 15–19 July 2012. Weather conditions were suitable for detecting the species (daytime average high of 81°F, nighttime low average of 61°F with no rainfall). Eight trap lines totaling 130 traps were set, as shown in Figure 3.7-8. Based on the presence of suitable conditions (vegetation, soils, and small-mammal activity), live traps were placed along each trap line ranging from 16 to 33 feet between traps. Traps were placed adjacent to small-mammal burrows where present. Each trap was baited with an oatmeal/seed mix, triggers were checked to ensure sensitivity, and traps were opened at sunset. The traps were checked for 5 nights (650 trap nights; one trap night = one trap set and checked for 1 night). All traps were checked at sunrise, including a thorough check beneath trigger plates to ensure that no animals were inadvertently left inside traps. All animals captured were identified and released. The details of trapping results are described in Section 3.7.7.1. The Pacific pocket mouse summary report of findings from trapping in 2012 is located in Appendix C.

3.7.2 Regulatory Setting

Several Federal regulations and standards have been established to protect and conserve biological resources. Those applicable to the native and naturalized plant and animal resources that occur in the terrestrial and wetland habitats within or adjacent to the Proposed Action are described below.

3.7.2.1 Federal Endangered Species Act, Section 7

The Federal Endangered Species Act (ESA) of 1973 (16 U.S.C. §§ 1531 et seq.) directs USFWS and National Marine Fisheries Service to identify and protect endangered and threatened species and their critical habitat, and to provide a means to conserve their ecosystems. Section 9 of the ESA makes it unlawful for a person to take a listed animal without a permit. "Take" is defined by the ESA as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to engage in any such conduct" (16 U.S.C. § 1532[19]). Through regulations, the term "harm" is interpreted to include actions that modify or degrade habitats to a degree that significantly impairs essential behavioral patterns, including breeding, feeding, or sheltering. Section 7 of the ESA outlines procedures for Federal interagency cooperation to conserve federally listed species and designated critical habitat. The ESA mandates that all Federal agencies participate in the conservation and recovery of listed threatened and endangered species, and that each agency ensures that any action it authorizes, funds, or carries out does not jeopardize the continued existence of a listed species or its critical habitat. Formal consultation in compliance with Section 7 of the ESA is required if a proposed project has the potential to affect federally listed species that have been detected within or adjacent to a proposed project site.

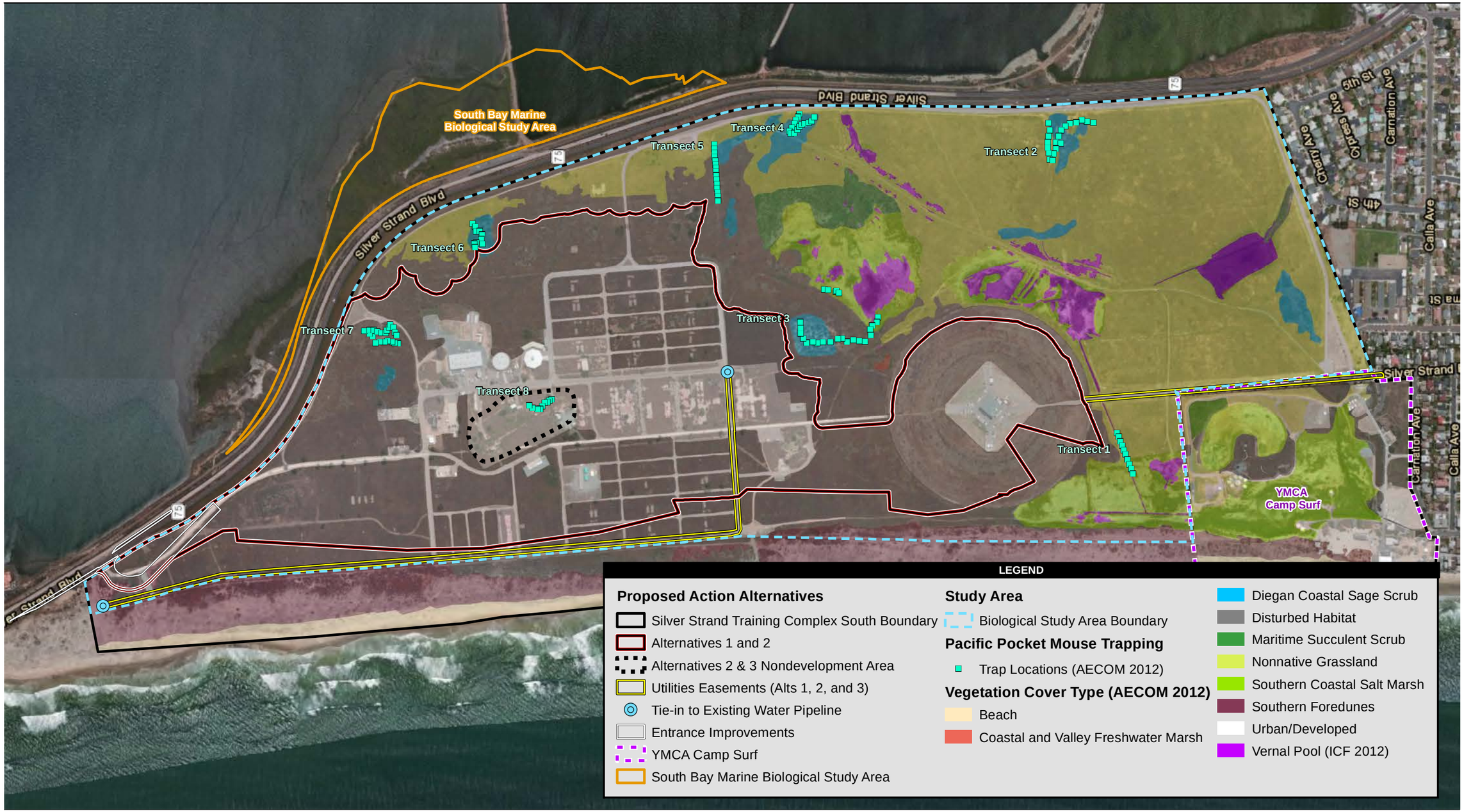
Section 7(a)(2) directs all Federal agencies to ensure that any action they authorize, fund, or carry out is not likely to jeopardize the continued existence of an endangered or threatened species or result in the destruction or adverse modification of designated critical habitat. Under the implementing regulations (50 C.F.R. § 402), Federal agencies must review their actions and determine whether the action may affect federally listed and proposed species or proposed or designated critical habitat. If they may be affected, consultation with USFWS is required. This consultation has been concluded with the issuance of an Informal Consultation Concurrence Letter (FWS-SDG-14B0200-14I0295) from USFWS on 12 September 2014 (Appendix E). In this letter, USFWS concurred that the Proposed Action may affect, but is not likely to adversely affect, the species for which informal consulation was conducted. These species are discussed in greater detail in the subsequent sections below.

Federally listed species that are known to occur or have the potential to occur in the project area are as follows:

- Salt marsh bird's beak;
- Coastal dune milk vetch;
- San Diego fairy shrimp;
- California Least Tern;
- Western Snowy Plover;
- Light-footed Ridgway's Rail; and
- Pacific pocket mouse.

The Navy has prepared a Biological Assessment (BA) to address potential impacts to these species, which was submitted on 28 April 2014 to initiate Section 7 consultation with USFWS. USFWS issued an Informal Consultation Concurrence Letter (FWS-SDG-14B0200-14I0295) on 12 September 2014 (Appendix E). USFWS has already issued Biological Opinions (BOs) for previous actions on SSTC and these include the following:

- 2005 BO on Military Training Operations during 2005 and 2006 Breeding Seasons at Naval Base Coronado and Naval Radio Receiving Facility, Imperial Beach, Naval Base Coronado; and
- 2010 BO on the U.S. Navy's Silver Strand Training Complex Operations, Naval Base Coronado.



Source: ICF 2012; ESRI; CPEN; AECOM 2012

625 312.5 0 625 Feet

Scale: 1:7,500; 1 inch = 625 feet

Figure 3.7-8
Pacific Pocket Mouse Trapping Locations

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3.7.2.2 Migratory Bird Treaty Act and Executive Order 13186

The Migratory Bird Treaty Act (MBTA) of 1918 (16 U.S.C. §§ 703–712) is the primary legislation in the United States established to conserve migratory birds. It implements the U.S. commitment to four bilateral treaties, or conventions, for the protection of a shared migratory bird resource between the U.S. and Canada, Japan, Mexico, and Russia. The MBTA makes it unlawful to take or possess migratory birds, except as permitted by USFWS. The MBTA protects all migratory bird, their eggs, their body parts, and their nests. Essentially, all avian species native to the U.S. are protected under the provisions of the MBTA; introduced species and nonmigratory upland game birds are not protected by the MBTA.[3] "Take" under the MBTA is defined as "to pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to pursue, hunt, shoot, wound, kill, trap, capture, or collect" protected birds (50 C.F.R. § 10.12). A list of the bird species protected by the MBTA appears in 50 C.F.R. § 10.13. The MBTA is a strict liability statute, meaning that a violation can occur regardless of intent, knowledge, or negligence.

In 2000, the U.S. Court of Appeals for the District of Columbia ruled that Federal agencies are subject to the take prohibitions of the MBTA (see Humane Society v. Glickman, 217 F.3d 882 [DC Cir., 2000]). In response to this ruling, EO 13186, Protection of Migratory Bird Populations, was issued in January 2001, directing Federal agencies to develop and implement a Memorandum of Understanding (MOU) with USFWS to promote the conservation of bird populations. An MOU between DoD and USFWS was established on 31 July 2006. This MOU describes specific actions that should be taken by DoD to advance migratory bird conservation; avoid or minimize the take of migratory birds; and ensure DoD operations (other than military readiness activities) are consistent with the MBTA (DoD 2007). The MOU does not authorize take of migratory birds. Certain activities that the MOU specifically pertains to for the Proposed Action include:

1. Installation support functions, including but not limited to, the maintenance, construction, or operation of administrative offices; military exchanges; road construction; commissaries; water treatment facilities; storage facilities; schools; housing; motor pools; non-tactical equipment; laundries; morale, welfare, and recreation activities; shops; landscaping; mess halls; and

2. Construction or demolition of facilities relating to these routine operations.

The 2003 National Defense Authorization Act provides that the Secretary of the Interior can exercise his/her authority under the MBTA to prescribe regulations to exempt DoD from the MBTA take prohibitions during military readiness activities authorized by the Secretary of Defense. A final rule authorizing DoD to take migratory birds during military readiness activities was published in February 2007 (72 Federal Register 8931–8950). The Proposed Action analyzed herein does not fall under the military readiness activities identified in this final rule; therefore, it is subject to the provisions of the MBTA and the MOU between DoD and USFWS.

3.7.2.3 Executive Order 11990, Protection of Wetlands

Pursuant to EO 11990, each Federal agency is responsible for preparing and implementing procedures for carrying out the provisions of the EO. The purpose of this EO is to "minimize the destruction, loss, or

[3] See 50 C.F.R. § 10.13 for list of avian species protected by the MBTA and 70 Federal Register 28907-28908 for a list of nonnative species that are not protected by the MBTA.

degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands." Each agency, to the extent permitted by law, must avoid undertaking or providing assistance for any activity located in wetlands unless the head of the agency finds that there is no practical alternative to such activity and; the Proposed Action includes all practical measures to minimize harm to wetlands that may result from such actions. In making this finding, the head of the agency may take into account economic, environmental, and other pertinent factors. Each agency must also provide opportunity for early public review of any plans or proposals for new construction in wetlands.

3.7.2.4 Federal Water Pollution Control Act (Clean Water Act)

The Federal Water Pollution Control Act was first passed by Congress in 1948 and was later amended in 1972 and became known as the Clean Water Act (CWA). The purpose of the CWA is to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters." In compliance with Section 401 of the CWA, every applicant for a Federal permit to discharge into a regulated water body must obtain certification from the state that the proposed activity will comply with state water quality standards and water quality objectives. As such, Section 401 provides the SWRCB and/or the relevant local RWQCB with the regulatory authority to certify or deny that compliance can be met. No permit to discharge into regulated waters may be issued by a Federal agency until certification required by Section 401 has been granted. Any proposed discharge of dredge or fill materials into Federal jurisdictional waters would require a Section 404 permit from USACE and a Section 401 Water Quality Certification from the RWQCB. Pursuant to Section 401 of the CWA, the RWQCB certifies that the discharge of any pollutant into jurisdictional waters of the U.S. will comply with state water quality standards. The RWQCB, as delegated by USEPA, has the principal authority to issue a CWA Section 401 Water Quality Certification or Waiver. The CWA authorizes USEPA to implement pollution control programs, including setting wastewater standards and water quality standards for contaminants in surface waters.

Section 402 of the CWA sets forth regulations that prohibit the discharge of pollutants into "waters of the U.S." from any point source without obtaining an NPDES permit. SWRCB implements the NPDES program by regulating point-source discharges of wastewater and agricultural runoff to land and surface waters to protect their beneficial uses.

Activities within wetlands and other navigable waters of the U.S. are regulated in compliance with Section 404 of the CWA. Pursuant to Section 404 of the CWA (as amended), USACE is authorized to regulate any activity that would result in the discharge of dredged or fill material into jurisdictional waters of the U.S., which include those waters listed in 33 C.F.R. Part 328 (Definitions). USACE, with oversight by USEPA, has the principal authority to issue CWA Section 404 Permits. The Navy must determine if any wetlands or jurisdictional waters have the potential to be affected by the Proposed Action and if any pollutants would be discharged into waters of the U.S. as part of the Proposed Action.

3.7.2.5 Coastal Zone Management Act (CZMA)

In compliance with the CZMA of 1972, as amended, any Federal project or activity affecting the coastal zone must be consistent, to the maximum extent practicable, with the provisions of federally approved state coastal plans. The CCC developed the California Coastal Management Program pursuant to the requirements of the CZMA. The CCC is responsible for reviewing proposed Federal and federally authorized activities affecting the state's coastal resources to assess the activities' consistency with the federally approved coastal management program. For all activities affecting coastal uses or resources,

preparation of a Coastal Consistency Determination or Coastal Consistency Negative Determination is required. The CZMA is also discussed in Section 3.1.1.3 as it relates to Land Use and Recreation and in Section 3.13 as it relates to Coastal Uses and Resources.

3.7.3 Plant Communities and Other Cover Types

This section describes the plant communities and other cover types present within the BSA. Ten plant communities and other cover types occur within the BSA: coastal and valley freshwater marsh, Diegan coastal sage scrub, disturbed habitat, maritime succulent scrub, nonnative grassland, southern coastal salt marsh, southern foredunes, urban/developed, beach, and vernal pools. Table 3.7-1 lists the acreage calculations for each of the plant communities and cover types that occur within the BSA on SSTC-South, NAB Coronado, and NASNI.

Table 3.7-1
Terrestrial Plant Communities and Cover Types within the BSA on SSTC-South, NAB Coronado, and NASNI

Plant Community	SSTC-South (acres)[1]	NAB Coronado (acres)	NASNI (acres)
Wetland			
Coastal and Valley Freshwater Marsh	0.16	-	-
Southern Coastal Salt Marsh	20.70	-	-
Vernal Pool	11.11	-	-
Upland			
Diegan Coastal Sage Scrub	8.04	-	-
Maritime Succulent Scrub	4.63	-	-
Nonnative Grassland	104.17	-	-
Southern Foredunes	41.79	-	-
Other Land Cover Types			
Beach	12.42	-	-
Urban/Developed	61.63	6.27	2.68
Disturbed Habitat	173.99	-	-
Total[1]	**438.67**	**6.27**	**2.68**

[1] This number excludes plant communities on YMCA Camp Surf and the South Bay Marine Biological Study Area. Numbers may not sum due to rounding.

Coastal and Valley Freshwater Marsh

Two small areas of perennially wet freshwater habitat support emergent wetland plants: southern cattail (*Typha domingensis*), prairie bulrush (*Bulboschoenus maritimus* ssp. *paludosus*), mulefat (*Baccharis salicifolius*), and pale spikerush (*Eleocharis macrostachya*). These areas were formerly mapped separately as bulrush-cattail series, spikerush series, and freshwater pond.

Southern Coastal Salt Marsh

Three large undrained basins (with no outfall) occur in the southern portion of SSTC-South. These areas are nontidal but maintain saline wetland characteristics largely supported by seasonal rains and become

encrusted with salt panne. Plants of this habitat include the following: saltgrass (*Distichlis spicata*), shoregrass (*Distichlis littoralis*), Pacific pickleweed (*Salicornia pacifica*), Parish's pickleweed (*Arthrocnemum subterminale*), southwestern spiny rush (*Juncus acutus* ssp. *leopoldii*), alkali weed (*Cresssa truxillensis*), salt dodder (*Cuscuta salina*), alkali mallow (*Malvella leprosa*), western marsh-rosemary (*Limonium californicum*), and Boccone's sand-spurry (*Spergularia bocconi*). There is a low potential for the occurrence of salt marsh bird's beak even though its host plant, saltgrass, is prevalent in this habitat. This plant community incorporates the areas formerly mapped as pickleweed series.

Vernal Pool

Several low linear areas are seasonally inundated or saturated by rain but are above the salt panne and support a small number of vernal pool flora and invertebrate fauna. These areas were only briefly saturated from 2012's rainfall and were less in overall extent than had been documented and mapped in previous surveys (RECON 2004). Vernal pool flora lacked variety in 2012, only exhibiting three typical vernal pool plant species: pale spikerush, water hyssop (*Lythrum hyssopifolium*), and woolly marbles (*Psilocarphus brevissimus*). Previous surveys found water star-wort (*Callitriche marginata*). The federally listed endangered San Diego fairy shrimp has been observed in these habitats, as well as the San Francisco brine shrimp (*Artemia fransiscana*), an unlisted species (Cobb and O'Connor 2003; U.S. Navy 2011b). The vernal pool plant community is the equivalent of the San Diego mesa vernal pool habitat.

Diegan Coastal Sage Scrub

Small remnant stands of Diegan coastal sage scrub occur in scattered areas of the SSTC-South site. These are dominated by coast California buckwheat (*Eriogonum fasciculatum*), broom baccharis (*Baccharis sarothroides*), coast sagebrush (*Artemisia californica*), lemonade berry (*Rhus integrifolia*), and California encelia (*Encelia californica*). Areas formerly mapped as California sagebrush series, California buckwheat series, and coyote brush series are incorporated into the Diegan coastal sage scrub plant community.

Maritime Succulent Scrub

This plant association is a subset of Diegan coastal sage scrub and is dominated by succulent plants such as cacti that occur on drier sites. Dominant plant species include the following: coast cholla (*Cylindropuntia prolifera*), San Diego barrel cactus (*Ferocactus viridescens*), and California boxthorn (*Lycium californicum*). Although it is more typically associated with Diegan coastal sage scrub, variegated dudleya (*Dudleya variegata*) occurs in some dry flats in close proximity to these cacti. Maritime succulent scrub is generally equivalent to *Opuntia littoralis* alliance in the California Manual of Vegetation (Sawyer et al. 2009).

Nonnative Grassland

Nonnative annual grasses and broadleaf weed species dominate most of the southern half of SSTC-South. The most frequent plant species include brome grasses (*Bromus* spp.), short-pod mustard (*Hirschfeldia incana*), London rocket (*Sisymbrium* sp.), sourclover (*Melilotus indicus*), and a large number of other nonnatives. This plant community is the equivalent of the California annual grassland series.

Southern Foredunes

The sandy beach above the tidal influence supports a plant association that is uniquely adapted to loose, drifting sand with large mats that form partially stabilized dunes. The most prominent plant species include red sand verbena (*Abronia maritim*a), beach bur-sage (*Ambrosia chamissoni*s), London sea-rocket (*Cakile maritim*a), beach evening-primrose (*Camissoniopsis cheiranthifolia* ssp. *suffruticos*a), seashore morning-glory (*Calystegia soldanell*a), saltgrass, shoregrass (*Distichlis littoralis* formerly *Monanthochloe l.*), and Watson's saltbush (*Atriplex watsoni*i). Small areas behind these stabilized dunes support an area occupied mostly by native annual wildflowers, including intermediate cryptantha (*Cryptantha intermedi*a), coast woolly-heads (*Nemacaulis denudata* var. *denudat*a), Lastarriaea (*Lastarriaea coriace*a), everlasting bedstraw (*Stylocline gnaphalioide*s), Orcutt's pincushion (*Chaenactis glabriuscula* var. *orcuttian*a), and Nuttall's lotus (*Acmispon prostratu*s). This habitat extends east of the perimeter fence, especially where drifting sand, vegetation clearing, and roads have protected it from the encroachment by ice plant (*Carpobrotus chilensi*s) throughout the eastern edge of the active sand dunes. This plant community is the equivalent of sand verbena-beach bursage series.

Beach

This area is within the SSTC-South boundary but is not included as a plant community or other cover type; it is subject to periodic tidal action. Although it is important habitat and functions in the marine environment, it is not regarded as part of the biological survey or analyzed in the following environmental consequences or cumulative impacts because it is not part of the Proposed Action footprint.

Urban/Developed

Urban/developed areas are areas that are built upon or have the remains of former buildings, roads, or other structures. Although these areas would not usually be considered as natural habitat, one nonfederally listed native plant species, Nuttall's lotus, is abundant among the cement flooring of some of the abandoned structures.

Disturbed Habitat

Most of the natural habitat throughout the northern half of the SSTC-South is dominated by ice plant, which has invaded large areas of native vegetation, especially the southern foredune habitat. Although ice plant was probably planted to control erosion and blowing sand, it has become a serious weed problem. Disturbed habitat includes most of the same area that was previously mapped as ice plant series (RECON 2004).

3.7.3.1 Presence and Status of Invasive Plant Species

The current botanical survey of SSTC-S documented a total of 104 plant species, of which 42 are nonnative, which comprises 40 percent of the flora. Other sources for information on invasive plants have been the INRMP (U.S. Navy 2013c) and a comprehensive resource inventory (RECON 2004). According to the current survey and these references, several of these plants are considered to be invasive and potentially problematic species. These include the following: ice plant, acacia (*Acacia cyclop*s), castor bean (*Ricinus communi*s), giant reed (*Arundo dona*x), pampas grass (*Cortaderia selloan*a), fountain grass (*Pennisetum setaceu*m) fennel (*Foeniculum vulgar*e), salt cedar (*Tamarix* sp.) and eucalyptus (*Eucalyptus* spp.).

Only ice plant is considered seriously problematic at SSTC-South where it currently has encroached important plant habitat since its apparent intentional introduction in the 1950s. It currently limits several sensitive plant species including coast woolly-heads, Nuttall's lotus, Orcutt's pincushion, and variegated dudleya.

3.7.4 Waters of the U.S.

Table 3.7-2 shows the type of potential waters of the U.S., type of habitat, and amount of acres within the BSA and the adjacent YMCA Camp Surf as depicted in Figure 3.7-2. There are no jurisdictional waters of the U.S. on or near the Alternative 3 sites at NAB Coronado and NASNI.

Table 3.7-2
Potential Waters of the U.S. and State Occurring within the BSA

Type of Jurisdictional Waters of the U.S.	Area of Aquatic Resource (acres)[1]
Non-wetland	2.11
USACE Wetland	28.70
Total Jurisdictional Waters of the U.S.	**30.81**

[1] Acreage based on 2002 wetland delineation (RECON 2004). These acreages exclude YMCA Camp Surf.

3.7.5 Federally Listed Plants

One federally endangered plant, salt marsh bird's beak, is known to occur on SSTC-South within YMCA Camp Surf. It is located south of the Proposed Action footprint for Alternatives 1 and 2. No federally listed plant species are known from the Alterative 3 footprint on NAB or NASNI.

Salt Marsh Bird's Beak

Salt marsh bird's beak, a federally endangered plant, is also state listed as endangered and a California Native Plant Society (CNPS) 1B.2 species. It is an annual plant that is in the broomrape family. It is a facultative parasite upon several other plant species of salt marsh habitats, most notably two saltgrass species: saltgrass and shoregrass, both of which are common in the southern coastal salt marsh habitat at SSTC-South. The distribution and abundance of this plant are highly variable, and it has been known to be absent and then reappear due to unknown factors at Tijuana Estuary. It has a distribution from Santa Barbara County to northern Baja California, Mexico. In San Diego County, it is known mostly notably from Imperial Beach and Border Field State Park. There are some other reports of its presence on Otay Mesa and an introduced population in Ocean Beach. At SSTC-South, salt marsh bird's beak occurs at YMCA Camp Surf, which is outside of the area that would be subject to impacts associated with the Proposed Action alternatives. This area was not included in the current botanical survey. The potential habitat and host plant for salt marsh bird's beak extends north of YMCA Camp Surf, into the area south of the Wullenweber Antenna Array. Therefore, it is possible salt marsh bird's beak could extend north of its current known occurrence. Table 3.7-3 details the federally listed plant species that have a potential to occur on SSTC-South.

Table 3.7-3
Federally or State Listed Plants Potentially Present within the BSA

Scientific Name	Common Name	Federal/State/ Status[1]	Habitat	Presence or Potential to Occur within BSA
Ambrosia pumila	San Diego ambrosia	FE	chaparral, coastal scrub, valley and foothill grassland	Low – habitat present, coastal scrub, known from National City
Astragalus tener var. *titi*	coastal dunes milk vetch	FE/CE	coastal bluff scrub, coastal dunes	Low – habitat present, coastal dunes, known from Silver Strand at SSTC-North; last collected 1938, presumed extirpated
Chloropyron maritimum ssp. *maritimum* (formerly: *Cordylanthus m. m.*)	salt marsh bird's beak	FE/CE	coastal salt marsh, coastal dunes	High – habitat present, salt marsh known from Tijuana estuary, Sweetwater River, known from YMCA Camp Surf at SSTC-South (RECON 2004).
Eryngium aristulatum var. *parishii*	San Diego button-celery	FE/CE	vernal pools	Not expected – habitat present, vernal pools, known from Otay Mesa
Hazardia orcuttii	Orcutt's hazardia	CT	chaparral, coastal scrub	Low – habitat present, coastal scrub, known only from Encinitas, but frequent in Northern Baja California, Mexico
Navarretia fossalis	spreading navarretia	FT	vernal pools	Not expected – habitat present, vernal pools, known from Otay Mesa
Orcuttia californica	California Orcutt grass	FE/CE	vernal pools	Not expected – habitat present, vernal pools, known from Otay Mesa
Pogogyne abramsii	San Diego mesa mint	FE/CE	vernal pools	Not expected – habitat present, vernal pools, known from Kearny Mesa
Pogogyne nudiuscula	Otay Mesa mint	FE/CE	vernal pools	Not expected – habitat present, vernal pools, known from Otay Mesa

[1]Status derived from the California Natural Diversity Database maintained by CDFW (CDFG 2012) and CNPS's Inventory of Rare and Endangered Plants of California (http://cnps.site.aplus.net/cgi-bin/inv/invetory.cgi/Home).

Federal Endangered Species Act (FESA)
FE=Federal Endangered
FT=Federal Threatened
FC=Federal Candidate Species
FPT=Federal Proposed for listing as Threatened
FSC=Federal Species of Concern

California Endangered Species Act (CESA)
CE=California Endangered
CT=California Threatened
CC=California Candidate
CSC=California Special Concern Species
CDFW fully protected=Species may not be taken without permit from Fish and Game Commission
D=Delisted

3.7.6 Nonfederally Listed Special Status Plant Species

A list of nonfederally listed special status plant species documented in the BSA on SSTC-South or potentially present is provided in Table 3.7-4 and shown in Figure 3.7-3a. Any nonfederally listed special status plant species documented in Alternative 3 areas on NAB Coronado and NASNI are shown in Figure 3.7-3b. The list of nonfederally listed special status plant species is derived from current CNDDB records that were selected only for those plant species that have been documented or potentially occur within the vegetation communities on SSTC-South.

Table 3.7-4
Nonfederally Listed Special Status Plants with CNPS Special Status
Potentially Present at SSTC-South and within Alternative 3 Areas
on NASNI and NAB Coronado

Scientific Name	Common Name	CNPS Status[1]	Habitat	Presence or Potential to Occur within BSA
Abronia maritime	red sand verbena	4.2	coastal strand, sand dunes	High – present in sand dunes within SSTC-South to the west and outside of the BSA
Acmispon prostratus(formerly *Lotus nuttallianus*)	Nuttall's lotus	1B.1	coastal dunes, coastal scrub	Present within the BSA and Proposed Action footprint on SSTC-South and within the Proposed Action footprint on NASNI (Alternative 3)
Aphanisma blitoides	aphanisma	1B.2	coastal bluff scrub, coastal dunes, coastal scrub	Moderate – habitat present, coastal scrub, was known from Silver Strand
Atriplex coulteri	Coulter's saltbush	1B.2	coastal bluff scrub, coastal dunes, coastal scrub, valley and foothill grassland	Moderate – habitat present, coastal dunes, was known from Silver Strand
Atriplex pacifica	South Coast saltscale	1B.2	coastal scrub, coastal bluff scrub, playas, chenopod scrub	Moderate – habitat present, coastal scrub, known from Tijuana River, Otay Mesa
Atriplex serenana var. *davidsonii*	Davidson's saltscale	1B.2	coastal bluff scrub, coastal scrub	Moderate – habitat present, coastal scrub, reported Tijuana River, San Miguel Mountain: unverified
Bahiopsis laciniata (formerly *Vigueira laciniata*)	San Diego sunflower	4.2	chaparral, coastal sage scrub	Moderate – present at SSTC-South east of SR-75, occurs throughout Otay Mesa, San Diego, Chula Vista not within Proposed Action footprint
Bergerocactus emoryi	golden-spined cereus	2.2	coastal scrub, sometimes chaparral margins	Moderate – habitat present, maritime succulent scrub, known from Otay Mesa, Telegraph Canyon
Bloomeria clevelandii	San Diego goldenstar	1B.1	chaparral, coastal scrub, valley and foothill grassland, vernal pools	Low – habitat present, upland coastal sage scrub, known from Otay Mesa

Scientific Name	Common Name	CNPS Status[1]	Habitat	Presence or Potential to Occur within BSA
Brodiaea orcuttii	Orcutt's brodiaea	1B.1	vernal pools, valley and foothill grassland, closed-cone coniferous forest, cismontane woodland, chaparral, meadows	Not expected – habitat present, vernal pools, known from Otay Mesa
Cistanthe maritima (formerly *Calandrinia m.*)	sea kisses	4.2	coastal bluff, coastal scrub, valley and foothill grassland	Moderate – habitat present, coastal scrub, known from Chula Vista, National City, Point Loma
Camissonoipsis lewisii (formerly *Camissonia lewisii*)	Lewis's evening primrose	3	coastal bluff scrub, dunes, valley and foothill grassland, cismontane woodland	High – habitat present, coastal scrub, known from Silver Strand, Imperial Beach, National City, Point Loma, Mission Bay
Centromadia parryi ssp. *australis*	southern tarplant	1B.1	marshes and swamps (margins), valley and foothill grassland	Low – habitat present, seasonally wet alkaline seeps, vernal pools, known from Ramona, Escondido, Del Mar
Centromadia pungens ssp. *laevis*	smooth tarplant	1B.1	meadows and seeps (often alkaline), playas, riparian woodland, valley and foothill grassland	Low – habitat present, seasonally wet alkaline seeps, vernal pools, known from Santee, Escondido, MCBCP
Chaenactis glabriuscula var. *orcuttiana*	Orcutt's pincushion	1B.1	coastal bluff scrub, coastal dunes	Present at SSTC-South within Alternatives 1, 2, and 3 within the BSA (RECON 2004)
Chorizanthe polygonoides var. l*ongispina*	long-spined spineflower	1B.2	chaparral, coastal scrub, meadows, valley and foothill grassland	Low – habitat marginally present, upland coastal sage scrub, known from H Street, Chula Vista
Cylindropuntia californica var. *californica* (formerly *Opuntia c. c*.)	snake cholla	1B.1	chaparral, coastal scrub	Low – habitat present, maritime succulent scrub, known from Silver Strand but not observed within the BSA. Also known from National City, San Diego, Telegraph Canyon, Border Monument, Point Loma
Dicranostegia orcuttiana (formerly *Cordylanthus o*.)	Orcutt's bird's beak	2.1	coastal scrub	Low – habitat marginally present, coastal scrub, alluvial wash, known from Otay Valley
Dudleya attenuata ssp. *orcuttii*	Orcutt's dudleya	2.1	coastal scrub, coastal bluff scrub, chaparral	Low – habitat present, coastal scrub, known from Border Field State Park (Tijuana River Valley)
Dudleya variegate	variegated dudleya	1B.2	chaparral, coastal scrub, cismontane woodland, valley and foothill grassland	Present at SSTC-South within the BSA, but outside of the Proposed Action footprint (SERG 2012; RECON 2004)

Scientific Name	Common Name	CNPS Status[1]	Habitat	Presence or Potential to Occur within BSA
Erysimum ammophilum	sand-loving wallflower	1B.2	chaparral (maritime), coastal dunes, coastal scrub	Low – habitat present, coastal dunes, known from Torrey Pines State Park
Euphorbia misera	cliff spurge	2.2	coastal scrub	Low – habitat present, coastal scrub, known from Point Loma and Tijuana Hills
Ferocactus viridescens	San Diego barrel cactus	2.1	chaparral, Diegan coastal scrub, valley and foothill grassland	Present at SSTC-South within the BSA and Proposed Action footprint (AECOM 2012; RECON 2004)
Frankenia palmeri	Palmer's frankenia	2.1	coastal dunes, marshes (coastal salt), playas	High – salt marsh habitat is present within the BSA, known from Sweetwater Marsh, Tijuana Slough, and SSTC-S at and north of YMCA Camp Surf a few hundred feet from the Proposed Action footprint
Harpagonella palmeri	Palmer's grappling-hook	4.2	chaparral, coastal scrub, valley and foothill grassland	Low – habitat present, herbaceous openings in coastal scrub, known from Otay Mesa
Heterotheca sessiliflora ssp. *sessiliflora*	beach goldenaster	1B.1	coastal dunes, coastal scrub, chaparral (coastal)	High – habitat present, coastal scrub, known from several sites in Chula Vista adjacent to San Diego Bay, Sweetwater Marsh
Juncus acutus var. *leopoldii*	southwestern spiny rush	4.2	coastal and desert dunes; wetlands, especially alkaline	Present in dunes and salt marsh within the BSA, but outside of the Proposed Action footprint (AECOM 2012)
Isocoma menziesii var. *decumbens*	decumbent goldenbush	1B.2	coastal scrub	High – habitat present, coastal scrub, known from salt marsh at Imperial Beach, H Street in Chula Vista
Lasthenia glabrata ssp. *coulteri*	Coulter's goldfields	1B.1	tidal salt marshes, playas, valley and foothill grassland, vernal pools	High – habitat present, salt marsh, known from mouth of Sweetwater River, Tijuana Estuary
Lepidium virginicum var. r*obinsonii*	Robinson's pepper-grass	1B.2	chaparral, coastal scrub	Moderate – habitat present, coastal scrub, known from Border Field State Park, east Chula Vista
Leptosyne maritima (formerly *Coreopsis m.*)	sea dahlia	2.2	coastal scrub, coastal bluff scrub	Moderate – habitat present, coastal scrub, known from Naval Outlying Field Imperial Beach, Silver Strand
Lycium californicum	California boxthorn	4.2	coastal bluff scrub, coastal sage scrub	Present within the BSA and the Proposed Action footprint(AECOM 2012)

Scientific Name	Common Name	CNPS Status[1]	Habitat	Presence or Potential to Occur within BSA
Myosurus minimus ssp. *apus*	little mousetail	3.1	vernal pools	Not expected – habitat not present, vernal pools, known from Otay Mesa
Nama stenocarpum	mud nama	2.2	marshes and swamps	Not expected – habitat marginally present, known from Sweetwater Reservoir, Bonita
Navarretia prostrate	prostrate vernal pool navarretia	1B.1	Vernal pools in coastal scrub, valley and foothill grassland	Not expected – habitat present, vernal pools, known from Otay Mesa
Nemacaulis denudata var. *denudate*	coast woolly-heads	1B.2	coastal dunes	Present at SSTC-South in coastal dunes within BSA (outside of Alternatives 1, 2, and 3) near the proposed entry control point (AECOM 2012) and at NASNI (Alternative 3)
Orobanche parishii ssp. *Brachyloba*	short-lobed broomrape	4.2	coastal bluff scrub, coastal dunes, coastal scrub; root parasite on *Isocoma menziesii*	Moderate – habitat present, host plant *Isocoma menziesii*, known from Pt. Loma, Silver Strand
Phacelia stellaris	Brand's phacelia	1B.1	coastal scrub, coastal dunes	High – habitat present, coastal dunes, known nearby from Silver Strand, NAB Coronado, and NASNI
Senecio aphanactis	chaparral ragwort	2.2	cismontane woodland, coastal scrub, alkaline flats	Moderate – habitat present, alkaline flats, known from Silver Strand, Pacific Beach, Tijuana Hills
Stylocline citroleum	oil neststraw	1B.1	chenopod scrub, coastal scrub	Not expected – habitat present, coastal scrub, known mostly from Kern County, one old record from San Diego 1883, presumed extirpated
Suaeda esteroa	estuary seablite	1B.2	marshes and swamps	Present at SSTC-South east of SR-75, not in BSA (RECON 2004)
Suaeda taxifolia	woolly seablite	4.2	marshes and swamps	Present at SSTC east of SR-75, not in BSA (RECON 2004)

[1]Status derived from the CNDDB maintained by CDFW (CDFG 2012) and CNPS's Inventory of Rare and Endangered Plants of California (http://cnps.site.aplus.net/cgi-bin/inv/invetory.cgi/Home).

California Native Plant Society
CNPS 1B=Rare or endangered in California and elsewhere
CNPS 2=Rare or endangered in California, more common elsewhere
CNPS 3=More information needed about this plant (Review List)
CNPS 4= Limited distribution (Watch List)

CNPS code extensions:
.1 – Seriously endangered in California
.2 – Fairly endangered in California
.3 – Not very endangered in California

Of the 42 sensitive plant species listed above, only nine species have been recorded within or adjacent to the BSA on SSTC-South. These include red-sand verbena, Nuttall's lotus, Orcutt's pincushion, variegated dudleya, San Diego barrel cactus, Palmer's frankenia, southwestern spiny rush, California boxthorn, and coast woolly-heads. The locations of these species are provided in Figure 3.7-3a for SSTC-South, and Figure 3.7-3b for NASNI and NAB Coronado.

Only Nuttall's lotus, Orcutt's pincushion, San Diego barrel cactus, southwestern spiny rush, California boxthorn, and coast woolly-heads have been detected within the Proposed Action footprint. Sensitive plants that have been detected within the BSA, SSTC-South, or within the vicinity of SSTC-South are described below.

Red Sand Verbena

Red sand verbena is a CNPS List 4.2 species. It is a prostrate perennial succulent that occurs in stabilized sand dunes and sandy flats near the coastal beaches. It occurs from Ventura County south to Baja California, Mexico. At SSTC-South, it is abundant in the sand dunes outside of the Proposed Action footprint on the west side of the perimeter fence.

Nuttall's Lotus

Nuttall's lotus is a CNPS List 1B.1 species. It is an herbaceous member of the pea family that forms large mats with long branches that radiate out from a mostly perennial root base. It is naturally found in openings between shrubs of sage scrub or in stabilized sand dunes. The distribution of this plant is coastal Southern California and northern Baja California, Mexico. Most locations are in San Diego County, where it is currently thought to be restricted to a few populations at the Santa Margarita River, Ocean Beach, Pacific Beach, North Island, and Silver Strand. While Nuttall's lotus is not a federally listed species, it has been a candidate in the past and has a very limited distribution in the coastal dune habitats of San Diego County. It is relatively abundant at NASNI and SSTC-South, occupying the edges of dirt roads, old cement foundations, and other disturbed sites of urban/developed areas; many thousands of individual plants occur in Alternatives 1, 2, and 3. It is found in multiple locations on NASNI, as well as both the bayside and oceanside areas of NAB Coronado and on SSTC-S. It is one of the focal species for management per the NBC INRMP. NBC does annual surveys to monitor its presence across the properties. The plant is very common on NBC, growing in the dune and foredune areas, disturbed and ruderal areas, and even within parking lots and pavement cracks and potholes of developed areas. The total acreage covered by Nuttall's lotus at SSTC-South is approximately 10 acres, most of which occurs within the Proposed Action footprint. It has not been documented at NAB Coronado (U.S. Navy 2013c).

Nuttall's lotus at NASNI is present in a portion of the Alternative 3 footprint. It was mapped during a biological survey as occupying 6 to 25 percent cover in a 0.34-acre area (RECON 2006; Figure 3.7-3b).

A focused survey is conducted every year within the NASNI Nuttall's lotus study area. This area is situated just east of Southeast Runway 36 on NASNI, and is approximately 7.13 acres in size. Depending on rainfall, the Nuttall's lotus population fluctuates between 15,000 and 80,000 individuals. While the actual total Nuttall's lotus population on NBC is unknown, it is in the tens of thousands of individuals and is found in areas with little development potential.

San Diego Sunflower

San Diego sunflower is present at SSTC-South, east of SR-75 adjacent to the San Diego South Bay National Wildlife Refuge, but does not occur within the BSA.

Orcutt's Pincushion

Orcutt's pincushion is a CNPS List 1B.1 species. It is a small annual discoid sunflower that occurs in sandy soils of coastal dunes and bluffs in San Diego County and northern Baja California, Mexico. At SSTC-South, a small population of approximately 100 individuals of Orcutt's pincushion was seen near the western perimeter fence near a beach access gate near the center of the SSTC-South site. Approximately 50 individuals are on the east side of the perimeter fence. Orcutt's pincushion has also been reported near the center of the BSA.

Variegated Dudleya

Variegated dudleya is a CNPS List 1B.2 species. It is a succulent perennial from an underground root known from coastal San Diego County and northern Baja California, Mexico. It occurs in rocky and naturally barren habitats in sage scrub communities. At SSTC-South it occurs in grassy openings between cacti and sage scrub vegetation, near the Wullenweber Antenna Array. It has been documented as a population of thousands of individuals occurring over a few acres (RECON 2004). Census data from studies conducted in 2010 and 2011 documented populations of 132,368, a decrease of 222,532 individuals (SERG 2012). Since this a perennial species, it is likely that this fluctuation did not represent mortality. This location showed no more than approximately 100 plants when visited on 29 February 2012 at the beginning of its germination, although the area where it had been previously mapped probably supported more colonies at that time. On the 16 March 2012 visit to the BSA, none of these plants were observed. It appeared that they may have been temporarily lost to herbivory, potentially from San Diego black-tailed jackrabbits (*Lepus californicus bennetti*i), California ground squirrels (*Otospermophilus beecheyi*), and Audubon's cottontail (*Sylvilagus audubonii*). Variegated dudleya only occurs within the BSA but outside of the Proposed Action footprint.

San Diego Barrel Cactus

San Diego barrel cactus is a CNPS List 2.1 species. It is a low-growing perennial barrel cactus that occurs in Diegan coastal sage scrub and chaparral on dry exposures along canyon rims and dry, rocky exposed slopes. It is only known from San Diego County and northern Baja California, Mexico. At SSTC-South, San Diego barrel cactus is frequent within a 5-acre area that is characterized as maritime succulent scrub, where approximately 500 individuals occur. Most of these are large and apparently old, with many that have been damaged by herbivory from various mammal species (rabbits and ground squirrels). Two individuals occur within disturbed habitat north of Building 99 within the Proposed Action footprint, while most San Diego barrel cacti occur in the BSA but outside the Proposed Action footprint.

Palmer's Frankenia

Palmer's frankenia is a CNPS List 2.1 species. It is a sub-shrub that occurs in salt marshes in San Diego County and Baja California, Mexico. At SSTC-South, it is abundant in the southern coastal salt marsh in the area south of the Wullenweber Antenna Array and extends into YMCA Camp Surf. Its population is stable and intact except where some dirt roads have impacted the salt marsh habitat. This population does not occur within the Proposed Action footprint.

Southwestern Spiny Rush

Southwestern spiny rush is a CNPS List 4.2 species. It is a large herbaceous perennial that occupies wet, often saline habitats in salt marshes, sloughs, river banks, and seeps from San Luis Obispo to Baja California, Mexico, including coastal and desert populations. At SSTC-South, approximately 100 to 200 plants occur in the extreme northwest corner of the site immediately east of the sand dunes near the proposed entry control point and the water line utility easement. It also occurs in a marshy area of YMCA Camp Surf extending north along the east side of the dunes to the Wullenweber Antenna Array outside the Proposed Action footprint.

California Boxthorn

California boxthorn is a CNPS List 4.2 species. It is a medium-size shrub with spiny branches and small roundish succulent leaves and red berries. It is frequently seen along bluffs and dry inland slopes in southern San Diego County, north to Los Angeles, south to northern Baja California, Mexico, and in Arizona. Two California boxthorn plants were observed in the northern part of the Proposed Action footprint; most individuals occur in the southern portion of the BSA but outside of the Proposed Action footprint.

Coast Woolly-Heads

Coast woolly-heads is a CNPS List 1B.2 species. It is a prostrate-growing annual in the buckwheat family that occurs on sandy soils among coastal bluffs and dunes from Los Angeles to northern Baja California, Mexico, and Santa Catalina Island. At SSTC-South, it occurs mostly behind the stabilized beach dunes west of the perimeter fence, but it has colonized open areas of loose sand where ice plant has been removed or where ice plant has not invaded the native habitat east of the perimeter fence near the proposed entry control point. Several hundred individuals occur in this area. Coast woolly-heads is also present at NASNI where a population of 5,000 plants was mapped 530 feet southwest of the Proposed Action footprint from a biological survey in 2005 (RECON 2006; Figure 3.7-3b).

Brand's Phacelia

Brand's phacelia is a CNPS List 1B.1. Habitat for Brand's phacelia includes the southern foredunes and sandy flats that are common in the Proposed Action footprint, but it has not been observed or documented at SSTC-South. It was observed east of SR-75 within Silver Strand State Beach immediately north of Coronado Cays, from the southwestern portion of NASNI (in the coastal strand just north of Breaker's Beach), and at upper beach areas of NBC Bravo and Charlie Training Areas (U.S. Navy 2011b; RECON 2006).

Estuary Seablite

Estuary seablite occurs at SSTC-South in salt marsh habitat east of SR-75. It is not located within the BSA.

Woolly Seablite

Woolly seablite occurs at SSTC-South in salt marsh habitat east of SR-75. It is not located within the BSA.

3.7.7 Federally Listed Wildlife

There are seven federally listed wildlife species that are known to occur or have the potential to occur within and adjacent to the BSA. An additional two species that have been delisted from the endangered species list are known to occur within and adjacent to the BSA. No federally listed wildlife species are known to occur within the Alternative 3 footprint on NAB Coronado or NASNI.

Although no USFWS designated critical habitat occurs for any listed species on SSTC-South, critical habitat for the Western Snowy Plover occurs adjacent to and north of SSTC-South on Silver Strand State Beach (Figure 3.7-7). Critical habitat for the Western Snowy Plover occurs within the Proposed Action footprint as road improvements to SR-75 would be necessary for ingress and egress into the Coastal Campus. Table 3.7-5 describes these species and their Federal status, habitat affinities, and occurrence (or potential) on SSTC-South. Brief descriptions of the federally listed wildlife species that occur within or near the BSA are provided below in Section 3.7.7.1, and descriptions of federally delisted wildlife species are found in Section 3.7.7.2; known locations are depicted in Figure 3.7-7.

Table 3.7-5
Federally Listed and Delisted Wildlife Species Present or with Potential to Occur within the Proposed Action Footprint and Immediate Vicinity

Species Name	Federal Status	Habitat Affinities	Occurrence on SSTC-South
Federally Listed Species			
San Diego fairy shrimp (*Branchinecta sandiegonensis*)	Endangered. Listed on 3 February 1997 (62 Federal Register 4925). Listing status applies to entire species. Recovery plan issued (USFWS 1998a).	Restricted to vernal pools.	Known to occur within 26 vernal pools and basins within the BSA on SSTC-South (ICF 2012).
California Least Tern (*Sternula antillarum browni*)	Endangered. Listed on 2 June 1970 (35 Federal Register 8491, 16047). Listing status applies to entire species. Recovery plan issued (USFWS 1985a).	Nests along sandy beaches close to estuaries and embayments.	Known to breed on SSTC-North (NAB) and San Diego Bay National Wildlife Refuge. Observed flying over the BSA between nesting and foraging areas, but does not breed on SSTC-South.
Western Snowy Plover (*Charadrius nivosus nivosus*)	Threatened. Listed on 5 March 1993 (58[42] Federal Register 12864). Listing status applies only to the Pacific coast population of this species. Recovery plan issued (USFWS 2007a). Critical habitat occurs	Habitat includes intertidal beaches (between mean low water and mean high tide), associated dune systems, and river estuaries.	Known to breed on beaches on the west side of SSTC-South outside the BSA (U.S. Navy 2013c).

Species Name	Federal Status	Habitat Affinities	Occurrence on SSTC-South
	within the Proposed Action footprint within subunit CA 55F.		
Light-footed Ridgway's Rail (*Rallus obsoletus levipes*) formerly known as Light-footed Clapper Rail (*Rallus longirostris levipes*) (Chesser et al. 2014)	Endangered. Listed on 13 October 1970 (35 Federal Register 16047). Listing status applies only to U.S. population. Recovery plan issued (USFWS 1985b).	Habitat includes southern coastal salt marshes, lagoons, and intertidal zones. Nests in dense stands of cordgrass and pickleweed.	Known to breed adjacent to the BSA in the South Bay Marine Biological Study Area and San Diego Bay National Wildlife Refuge.
Least Bell's Vireo (*Vireo bellii pusillus*)	Endangered. Listed on 2 May 1986 (51 Federal Register 16482). Listing status applies to the entire population. Draft recovery plan proposed by USFWS and circulated for review (USFWS 1998c).	Nesting is associated with riparian woodland and is most frequent in areas that combine an understory of dense young willows or mulefat, with a canopy of tall willows.	Observed migrating through the BSA. No suitable breeding habitat occurs within or adjacent to the BSA.
Coastal California Gnatcatcher (*Polioptila californica californica*)	Threatened. Listed on 25 March 1993 (58 Federal Register 16742). Listing status applies to the entire population of this subspecies. No recovery plan has been published for this subspecies.	Plant communities consist of Diegan coastal sage scrub and Riversidian coastal sage scrub dominated by California sagebrush and California buckwheat.	Observed dispersing through the BSA. No suitable breeding habitat occurs within or adjacent to the BSA.
Pacific pocket mouse (*Perognathus longimembris pacificus*)	Endangered. Emergency listed on 3 February 1994 (59 Federal Register 5306). Listing status applies to entire population of this species. Recovery plan issued (USFWS 1998b).	Plant communities suitable for Pacific pocket mouse consist of shrublands with firm, fine-grain, sandy substrates in the immediate vicinity of the ocean. These communities include coastal strand, coastal dunes, river alluvium, and coastal sage scrub growing on marine terraces.	Not known to occur on SSTC-South and none detected within the BSA during surveys. The closest known population is 50 miles north on MCBCP. Historically found in Tijuana River Valley.
Federally Delisted Species			
California Brown Pelican (*Pelecanus occidentalis californicus*)	Delisted. Listed as threatened on 2 June 1970 (35 Federal Register 8491-8498, 16047-16048). Final Rule to delist occurred on 17 November 2009; went	Breeds on offshore islands such as the Channel and Coronado Islands (Garrett and Dunn 1981). Forages over open ocean, bays, estuaries, and other saline water features.	Observed flying over the BSA between foraging and roosting locations. Does not breed or roost within the BSA or on the beaches to the west.

Species Name	Federal Status	Habitat Affinities	Occurrence on SSTC-South
	into effect on 17 December 2009.		
American Peregrine Falcon (*Falco peregrinus anatum*)	Delisted. Listed on 2 June 1970 (35 Federal Register 8491, 16047). Delisted on 25 August 1999.	Breeds on steep cliff faces, large buildings, bridges, and other tall structures. Nests on Naval Base Point Loma (Unitt 2004) and has nested at other locations around San Diego Bay including on the ground in 2006 (Pagel et al. 2010). Forages over open ocean, along shorelines, bays, mud flats, and grasslands.	Observed foraging within the BSA. No suitable nesting habitat occurs in the BSA.

3.7.7.1 Federally Listed Wildlife Species

The following section describes the listing history, life history, habitat requirements, known population locations, and potential to occur for federally listed and delisted species within the BSA on SSTC-South.

San Diego Fairy Shrimp

San Diego fairy shrimp was listed as federally endangered on 3 February 1997 (USFWS 1997a). San Diego fairy shrimp is included in the approved recovery plan for the listed species of Southern California vernal pools (USFWS 1998a). Critical habitat was proposed, contested, and reproposed on 22 April 2003 (USFWS 2003). No critical habitat for the San Diego fairy shrimp occurs on the BSA.

San Diego fairy shrimp is a small freshwater crustacean in the family Branchinectidae of the Order Anostraca. It is small and delicate with large stalked compound eyes, no carapace, and 11 pairs of swimming legs. Mature males attain 0.6 inch and females 0.5 inch in length. These tiny crustaceans can be distinguished from other fairy shrimp of the same genus by the shape of the second antenna (males) or the shape and length of the ovisac and the presence of paired dorsilateral spines. Fairy shrimp are presumed to feed on algae, bacteria, protozoa, rotifers, and bits of organic matter (USFWS 2003). San Diego fairy shrimp is a habitat specialist found in smaller, shallow vernal pools and ephemeral (lasting a short time) basins that range in depth from approximately 2 to 12 inches (USFWS 1997a). However, the species occasionally occurs in ditches and road ruts that can support suitable conditions. No individuals have been found in riverine waters, marine waters, or other permanent bodies of water (USFWS 1998a). Adult San Diego fairy shrimp are usually observed from January through March; however, in years with early or late rainfall, the hatching period may be extended.

The species hatches and matures within 7 to 14 days, depending on water temperature (USFWS 1997a). San Diego fairy shrimp may no longer be visible after about 1 month, but they will continue to hatch if subsequent rains result in additional water or refilling of the vernal pools (USFWS 1997a). The eggs are either dropped to the pool bottom or remain in the brood sac until the female dies and sinks. The “resting eggs” or “cysts” are capable of withstanding temperature extremes and prolonged drying. When the pools refill in the same or subsequent rainy seasons, some, but not all, of the eggs may hatch. Fairy shrimp egg banks in the soil may be composed of the eggs from several years of breeding (USFWS 1997a).

San Diego fairy shrimp are restricted to vernal pools in coastal Southern California to extreme northwestern Baja California, with San Diego County supporting the largest number of remaining occupied vernal pools (USFWS 2000b). USFWS (2000b) estimated at the time of listing that fewer than 200 acres of occupied vernal pool habitat remained in San Diego County, of which an estimated 70 percent occurs on DoD lands (USFWS 2003). San Diego fairy shrimp is found in San Diego County from MCBCP along the coast; inland to Ramona; south through Del Mar Mesa, Kearny Mesa, Proctor Valley, and Otay Mesa; and into northwestern Baja California, Mexico.

On SSTC-South, San Diego fairy shrimp are found in natural vernal pools, basins, road ruts, soil depressions, drainage channels, and other features that pond water in the southern half of the site. These various features that hold water and have fairy shrimp are herein referred to as basins, as some of these features do not support vernal pool plant indicator species. Surveys were conducted in 2003 that confirmed the presence of San Diego fairy shrimp in 11 of 34 basins at that time (Cobb and O'Connor 2003). According to the most recent surveys conducted by ICF from 2010 through 2011, a total of 26 of 59 basins are currently occupied by San Diego fairy shrimp (Figure 3.7-6) (ICF 2012). The full details of the survey methodology for wet- and dry-season surveys, results, and conclusions are located in the ICF 2012 report found in Appendix C.

California Least Tern

California Least Tern was listed as a federally endangered species on 2 June 1970 (USFWS 1970a, b). USFWS initiated a 5-year review of 58 species under Section 4 (c)(2)(B) of the ESA on 14 February 2007, which included the California Least Tern. Recommendations have been made to reclassify California Least Tern from endangered to threatened (USFWS 2006a). No critical habitat designations have been set for this species, and a recovery plan has been drafted and revised multiple times (USFWS 1980, 1985a). California Least Tern is also covered under the MBTA.

California Least Tern is a small migratory tern with a white body and black wingtips. An adult has a black-capped head, white forehead, and black-tipped yellow beak. It feeds exclusively on fish by hovering over prey and then plunging into the water. It typically forages in areas with water less than 60 feet in depth (Atwood and Minsky 1983).

The species nests in loose colonies in areas relatively free of human and predatory disturbance. Nests are on barren to sparsely vegetated sites near water, usually with a sandy or gravelly substrate. They require sandy beaches close to estuaries and coastal embayments. The breeding season usually lasts from March through September, and typically only one clutch is raised. In San Diego County, it is a fairly common summer resident from early April to the end of September (Unitt 2004). Pairs will nest again if the nest or chicks are lost. Juveniles can breed by the age of 2 (USFWS 2008c). They nest in large colonies and dig a simple scrape or depression in the sand and lay one to four eggs. Eggs are incubated for 20 to 25 days by both adults. Young fledge 28 days after hatching, and are fed by adults for an additional 2 weeks. Banding returns indicate that Least Terns exhibit fidelity to the site where they first bred successfully. Prey items include northern anchovy, topsmelt, killifish, mosquito fish, shiner, surfperch, and mudflat gobies. Significant predators include Burrowing Owls and American Kestrels (Collins and Bailey 1980).

Historically, California Least Tern nested in large beach colonies from San Francisco Bay south into Baja California. Currently they nest along the Pacific coast from San Francisco Bay south to the Tijuana River

Estuary with populations extending down the Baja California Peninsula (USFWS 2006a). In San Diego County, California Least Tern nests on MCBCP south to the Tijuana River Estuary. Significant nesting sites in the county include MCBCP, Mission Bay, Batiquitos Lagoon, Tijuana River mouth, Chula Vista Wildlife Reserve, NAB Coronado, and Lindbergh Field. Wintering areas are thought to be along the Pacific coast of South America.

There are many years of California Least Tern nesting data from NBC installations, including from NAB Coronado, NASNI, and North and South Delta Beaches. In 2008, around 21 percent of the state-wide breeding pairs nested on NASNI (U.S. Navy 2011b). The Navy has a well-documented account of nesting pairs, number of nests, numbers of chicks, and predators for California Least Tern for the various installations where they occur (U.S. Navy 2013c, 2011a).

According to the NBC INRMP (U.S. Navy 2013c), there have been no California Least Tern nests on SSTC-South. Currently, the California Least Tern is not known to nest on the beaches of SSTC-South. They are known to nest about 2 miles north of SSTC-South on SSTC-North and the Delta North and Delta South beaches as well as within the San Diego Bay National Wildlife Refuge (along the interior dikes) approximately half a mile to the east. SSTC-North has the second highest number of nesting California Least Terns in San Diego County. During Western Snowy Plover surveys conducted by the Navy and most recently carried out by the San Diego Zoo, all California Least Tern nests observed are recorded. To date, the Navy has not found any California Least Tern nests on SSTC-South, including the most recent surveys conducted in 2013 (San Diego Zoological Society 2013).

California Least Tern is known to fly over the BSA from foraging over the Pacific Ocean to nesting locations in San Diego Bay. California Least Terns have been observed on several occasions flying over SSTC-South to either nesting or foraging locations (Figure 3.7-7). This species does not use habitat within the BSA for breeding or foraging, but may occasionally fly over the BSA.

Western Snowy Plover

Western Snowy Plover was listed as federally threatened on 5 March 1993 (USFWS 1993a). On 2 March 1995, proposed critical habitat was published by USFWS (USFWS 1995). On 17 December 2004, USFWS proposed to designate critical habitat for the Pacific coast population segment of Western Snowy Plover. On 19 June 2012, a final rule (77 FR 36727) designating critical habitat was published (USFWS 2012b). Western Snowy Plover is also protected under the MBTA. A recovery plan has been issued for Western Snowy Plover (USFWS 2007a). No critical habitat for Western Snowy Plover occurs within the BSA. However, critical habitat occurs north of and adjacent to the BSA on Silver Strand State Beach (Figure 3.7-7).

Western Snowy Plover is a small shorebird that is pale in color with a partial breast band, a dark ear patch, a thin dark bill, and grayish legs. They forage along coastal beaches above the mean high-water line, feeding on various invertebrates within tide-cast kelp, foredune vegetation, marine mammal carcasses, and along water seeps (Page et al. 1995). Western Snowy Plover nests on barren or sparsely vegetated sand beaches, dry salt flats in lagoons, dune habitats, river bars, and sand spits (Page et al. 1995).

The breeding season for the Pacific coast Western Snowy Plover begins as early as mid-February and extends until the end of September but this may vary from year to year. Western Snowy Plovers can be

polyandrous (having more than one mate), with females often deserting broods to start over with new males. Males construct a nest depression with help from the female using pieces of shell and bone fragments and debris to line the nest. The average clutch size is three eggs, and both sexes incubate eggs. Once eggs hatch, the female will often leave her mate in search of another male. Thus, males usually rear the precocial chicks, which fledge around 30 days after hatching (Page et al. 1995).

The Pacific coast population of Western Snowy Plover breeds along the Pacific coast from Washington south to Baja California, Mexico. The Pacific coast population includes all Western Snowy Plovers that nest on the mainland coast, peninsulas, offshore islands, adjacent bays, and estuaries (USFWS 1993a). Both migratory and resident birds make up the population in San Diego. Within San Diego County, Western Snowy Plovers nest from MCBCP south to the Tijuana River estuary. Western Snowy Plovers usually stay within 330 feet of the coastline, but will sometimes travel farther inland where the vegetation is still sparse (Page and Stenzel 1981; Page et al. 1995; USFWS 2004).

During avian surveys conducted on SSTC-South for the Proposed Action, no Western Snowy Plovers were observed inside the fenced area of SSTC-South. Western Snowy Plovers have been documented on the east side of SSTC-South within the USFWS San Diego Bay National Wildlife Refuge. This species does not use habitat within the BSA for breeding or foraging.

Western Snowy Plovers are known to nest on the beaches on the west side of SSTC-South. In 1992, there were no recorded Western Snowy Plovers on SSTC-South. By 2009, the number had increased to 14 nests (Cooper 2007 as cited in U.S. Navy 2011b). The most recent surveys conducted during the breeding season in 2013 found 21 Western Snowy Plover nests on SSTC-South (San Diego Zoological Society 2013). Yearly surveys are conducted, and nest data from 2011, 2012, and 2013 are depicted in Figure 3.7-7.

Light-footed Ridgway's Rail

Light-footed Ridgway's Rail (formerly known as Light-footed Clapper Rail based on a recent taxonomic change per Chesser et al. 2014) was listed as a federally endangered species by USFWS on 13 October 1970 (USFWS 1970b). A recovery plan was approved in July 1979, with final revisions occurring on 24 June 1985 (USFWS 1985b). Currently, there is no critical habitat designated for Light-footed Ridgway's Rail within or adjacent to the BSA.

Light-footed Ridgway's Rail is a marsh bird with long legs and toes, a slightly down-curved beak, and a short, upturned tail. It inhabits coastal salt marshes, lagoons, and intertidal zones. It nests in dense stands of cordgrass and pickleweed and requires mudflats for foraging and associated higher vegetation for cover and nesting.

Light-footed Ridgway's Rail ranges from Santa Barbara south to San Quintin, Baja California, Mexico. In Southern California, almost half of the population is located in the Upper Newport Bay. In San Diego County, Light-footed Ridgway's Rails range from marshes on MCBCP south to the Tijuana Estuary.

Light-footed Ridgway's Rail is known to occur to the east of SSTC-South in San Diego Bay. Historically, Navy-owned lands that are part of the South Bay Marine Biological Study Area have supported up to five pairs of Light-footed Ridgway's Rails (Hoffman 2007). The closest known location was recorded during Light-footed Ridgway's Rail surveys within the South Bay Marine Biological Study Area on 6 July 2005.

An adult and one chick were observed within pickleweed and their location is depicted in Figure 3.7-7. The most recent Navy-funded surveys found Light-footed Ridgway's Rails during the San Diego Bay Bird Survey (Tierra Data 2011) on 9 June 2009, when a family group (two adults and three fledglings) was observed in the South Bay Marine Biological Study Area (Figure 3.7-7). A single-day survey at the South Bay Marine Biological Study Area is conducted each spring as part of the State's survey effort.

Least Bell's Vireo

The Least Bell's Vireo, a subspecies of the Bell's Vireo (*Vireo bellii*), is a federally and state-listed endangered species. The Least Bell's Vireo was listed as federally endangered on 2 May 1986 (USFWS 1986). A draft recovery plan was prepared in March 1998 by USFWS and has been circulated for review (USFWS 1998c). Critical habitat was designated on 2 February 1994, but no critical habitat occurs within or adjacent to the BSA (USFWS 1994c).

The Least Bell's Vireo is a migrant songbird that generally arrives in San Diego County in late March and early April and leaves for its wintering grounds in September. The Least Bell's Vireo primarily occupies riparian woodlands that include dense cover within 3 to 7 feet of the ground and a dense, stratified canopy. The subspecies inhabits low, dense riparian growth along water or along dry parts of intermittent streams. The understory is typically dominated by species of willow (*Salix* sp.) and mulefat (*Baccharis salicifolia*). Overstory species typically include cottonwood (*Populus* sp.), western sycamore (*Platanus racemosa*), and mature willows. The subspecies typically builds nests in vegetation 3 to 4 feet above the ground (Salata 1984) where there is moderately open midstory cover with an overstory of willows, cottonwoods, sycamores, or coast live oaks (*Quercus agrifolia*). Nests are also often placed along internal or external edges of riparian thickets at an average of 3.3 feet above the ground (Unitt 2004). Riparian plant succession is an important factor in maintaining vireo habitat.

Historically, this subspecies was a common summer visitor to riparian habitat throughout much of California. Currently, the Least Bell's Vireo is found only in riparian woodlands in Southern California, with the majority of breeding pairs in San Diego, Santa Barbara, and Riverside counties. Substantial Least Bell's Vireo populations are currently found on five rivers in San Diego County—the Tijuana, Sweetwater, San Diego, San Luis Rey, and Santa Margarita rivers—with smaller populations along other drainages. During 1996, a total of 1,423 territorial males were recorded within San Diego County (Unitt 2004). From 2001–2005 a total of 1,609 pairs were recorded in San Diego County, which accounts for approximately 54 percent of the total Least Bell's Vireo population within California (USFWS 2006b). The subpopulation in the Tijuana River Valley is one of the largest breeding concentrations in California (USFWS 2002). The vireo's decline was attributed to loss, degradation, and fragmentation of riparian habitat combined with nest parasitism by the Brown-headed Cowbird (*Molothrus ater*). As a result of concerted programs focused on preserving, enhancing, and creating suitable nesting habitat, the Least Bell's Vireo population has steadily increased in size along several of its breeding drainages in Southern California. Significant increases in breeding populations have occurred along the Santa Ana River at Prado Basin and along the Santa Margarita River on MCBCP, as well as at several other sites throughout the region.

One Least Bell's Vireo was detected on 16 March 2012 migrating through the BSA (Figure 3.7-7). It was observed on the northern portion of the site, inside the edge of the disturbed area. It was observed in a small clump of a few coyote bush (*Baccharis pilularis*) shrubs located between an old concrete slab and paved road at the corner of Johnson Street and Kurtz Court. The area where the bird was detected is less than 100 feet in diameter and surrounded by a road and old cement slabs. Due to the disturbed nature

and small size of this habitat, it is not considered favorable for migrating vireos. There is no suitable breeding habitat within or adjacent to the BSA for Least Bell's Vireo. This bird was observed during the migration season for Least Bell's Vireo in San Diego County. The normal breeding season in San Diego County extends from May through July. This species apparently only migrates through the BSA. High-quality habitat for breeding and migrant use is located at least 3 miles to the south in the Tijuana River Valley and to the east in the Otay River Valley. The vegetation where the Least Bell's Vireo was detected is within the Proposed Action footprint and would be removed. However, there are patches of coyote bush to the east along SR-75 and San Diego Bay where vireos could still stop over during migration. Since Least Bell's Vireo was detected during the normal period of migration for the species, and since there is a lack of suitable breeding habitat and very little suitable habitat for migrant use within the Proposed Action footprint, this was determined to be an incidental observation of a transitory bird moving through the BSA during migration. The Proposed Action is anticipated to have no impact on the Least Bell's Vireo and this species is not discussed further in this document.

Coastal California Gnatcatcher

Coastal California Gnatcatcher, a subspecies of the California Gnatcatcher (*Polioptila californic*a), is federally listed as threatened by USFWS (1993b) and is considered a species of special concern by the California Department of Fish and Wildlife (CDFW) (formerly the California Department of Fish and Game; State of California 2011). No recovery plan has been drafted for Coastal California Gnatcatcher. Critical habitat was originally designated by USFWS for Coastal California Gnatcatcher in 2000 but was revised and a final rule was published in 2007 (USFWS 2007b). No critical habitat for Coastal California Gnatcatcher occurs within or adjacent to the BSA.

Coastal California Gnatcatcher is an uncommon year-round resident of Southern California. This species is declining proportionately with the continued loss of coastal sage scrub habitat in the six Southern California counties (San Bernardino, Ventura, Los Angeles, Orange, San Diego, and Riverside) located within the coastal plain. The primary cause of the decline of Coastal California Gnatcatcher is the cumulative loss of coastal sage scrub vegetation to urban and agricultural development. Studies suggest that Coastal California Gnatcatcher may be highly sensitive to the effects of habitat fragmentation and development activity (Atwood 1990; ERCE 1990). USFWS has estimated that coastal sage scrub habitat has been reduced by 70 to 90 percent of its historical extent (USFWS 1991), and little of what remains is protected in natural open space.

Coastal California Gnatcatcher generally inhabits Diegan coastal sage scrub and Riversidian coastal sage scrub dominated by California sagebrush (*Artemesia californic*a) and flat-topped buckwheat (*Eriogonum fasciculatu*m), usually lower than 1,500 feet in elevation along the coastal slope. When nesting, Coastal California Gnatcatchers typically avoid slopes greater than 25 percent with tall, dense vegetation. Coastal California Gnatcatcher pairs will attempt several nests each year, each placed in a different location inside their breeding territory, but most nest attempts are unsuccessful due to depredation by a variety of species (Atwood and Bontrager 2001). Clutch size ranges from one to five eggs, with three or four eggs most common. Coastal California Gnatcatchers will remain paired through the nonbreeding season and will generally expand their home range when not breeding.

Coastal California Gnatcatcher is particularly vulnerable to habitat destruction and fragmentation because of poor dispersal, reliance on a specific habitat type, and difficulty in successful breeding. On average, juvenile Coastal California Gnatcatchers disperse less than 1.2 miles from their natal territories, making

colonization of distant habitat patches difficult. Coastal California Gnatcatchers are closely tied to coastal sage scrub and have been described as "obligate residents of coastal sage scrub" (Atwood and Bontrager 2001). Coastal California Gnatcatcher typically experiences a high rate of nest failure, with an annual mean number of four nest attempts per pair in San Diego County (Grishaver et al. 1998). Coastal California Gnatcatcher tends to have slightly smaller clutches in years with poor rainfall and will experience a higher rate of mortality during cold winters (Atwood and Bontrager 2001; Grishaver et al. 1998).

The closest known location of breeding Coastal California Gnatcatchers to the BSA is approximately, 3.8 miles to the south in the Tijuana River Valley. One adult male Coastal California Gnatcatcher was detected on 5 October 2012 dispersing through the BSA (Figure 3.7-7). This species is nonmigratory but will expand its home range and disperse during the fall and winter. The postbreeding dispersal of juvenile and adult Coastal California Gnatcatchers can range from less than 1.9 miles for juveniles to close to 6 miles for adults (Hunsaker et al. 2000). Currently, there is insufficient coastal sage scrub on SSTC-South to support breeding Coastal California Gnatcatchers.

Pacific Pocket Mouse

On 3 February 1994, Pacific pocket mouse was emergency listed as endangered due to the rediscovery of a population within the Dana Point Headlands in July 1993 (USFWS 1994a). Before this discovery, Pacific pocket mouse had not been observed in more than 20 years. Subsequently, on 29 September 1994, Pacific pocket mouse was listed as federally endangered by USFWS and designated a "Species of Special Concern" by CDFG (USFWS 1994b). Critical habitat has not been determined by USFWS; however, an approved recovery plan for the species is complete (USFWS 1998b).

Pacific pocket mouse is a small, pinkish-brown-colored mouse with a light underside, light hairs on the ears, hair on the soles of its hind feet, and a bicolored tail. Pacific pocket mouse resides in fine, alluvial sands close to the ocean. Pacific pocket mice range in size up to 5 inches from nose to tail, and weigh less than 0.35 ounce (Gale 2005). The breeding season usually extends from the beginning of April to the end of August, but this is highly dependent on temperature and rainfall. Pacific pocket mouse feeds primarily on the seeds of grasses and forbs, occasionally eating vegetation and insects. The species has a high metabolic rate and caches seeds in burrows to use during winter hibernation in contrast to storing fat. Hibernation generally lasts from September through April. Pacific pocket mouse can alternate between periods of dormancy and hibernation (Gale 2005).

Pacific pocket mouse occurs on fine-grain sandy substrates in proximity (within 1.86 miles) to the ocean. It prefers well-drained soils with low-sloping topography. In general, sparse shrub cover, grassland, and open coastal sage scrub habitat are preferred, with adequate sandy soils (Gale 2005).

Pacific pocket mouse historically occurred within 2.5 miles of the coastal region of Southern California from Marina Del Rey and El Segundo, Los Angeles County, south to the Tijuana River Valley (USFWS 1997b). Only eight definite localities have been documented, most of which were subsequently lost to development (USFWS 1994b). Few records occur since the 1930s, and the species was not definitely identified by trapping studies after 1971, until a small population was discovered in Dana Point, Orange County, in 1993. Potential habitat remaining in San Diego County is mainly confined to MCBCP, although scattered and fragmented habitat areas may occur elsewhere. Currently, there remain three populations concentrated in four areas: Dana Point Headlands, San Mateo North, San Mateo South, and Santa

Margarita River mouth (along the northern coastal terrace) (USFWS 2010a). With the exception of the population located within the Dana Point Headlands, the remaining populations are located within MCBCP.

Within SSTC-South, suitable fine sandy soils for Pacific pocket mouse exist primarily around the bunkers and in the southern and eastern portions of the BSA. The Alternative 1 area is primarily developed habitat (see vegetation mapping in Figure 3.7-1a), with a few small patches of potentially suitable soil around the periphery. Pacific pocket mouse trapping for the Proposed Action alternatives in the summer of 2012 did not detect Pacific pocket mouse, and none are expected to occur.

Two small mammal species were documented during the trapping program: western harvest mouse (*Reithrodontomys megalotis*) and house mouse (*Mus musculus*) (Table 3.7-6). Trapping locations from the 2012 trapping program are depicted in Figure 3.7-8.

Table 3.7-6
2012 Pacific Pocket Mouse Trapping Program Results

Survey Date	15 July	16 July	17 July	18 July	19 July
western harvest mouse (*Reithrodontomys megalotis*)	5	7	10	8	7
house mouse (*Mus musculus*)	0	0	1	0	2
Total Captures (Capture %)	**5 (4%)**	**7 (5%)**	**11 (8%)**	**8 (6%)**	**9 (7%)**

During RECON's trapping program in 2002, five western harvest mice were captured. RECON had an extremely low capture ratio of 0.6 percent (five captures in 800 trap nights), and the only species captured was western harvest mouse (RECON 2004).

Similar to RECON's trapping program, the only native small mammal captured during the 2012 trapping effort was western harvest mouse. Although the average capture ratio of 6 percent was higher than documented in 2002, the complete lack of species richness of small mammals known from or potentially present in the region (*Perognathus*, *Chaetodipus*, *Dipodomys*, *Peromyscus*, *Neotoma*, and *Microtus*) is expected to be a factor of the historic disturbances and current isolation of SSTC-South. SSTC-South is almost completely surrounded by development or open water. There appears to be virtually no route for either common or sensitive small mammal species to naturally reoccupy the area from open space habitat located south of the site in the Tijuana River Valley.

No Pacific pocket mice were captured during the 2002 or 2012 trapping programs, and the species is not expected to occur within the Proposed Action footprint on SSTC-South. The Pacific pocket mouse survey report for trapping conducted in 2012 is located in Appendix C. Pacific pocket mouse will not be discussed further in this document, and no impact avoidance and minimization measures have been identified, as no impacts to occupied habitat are anticipated from the Proposed Action alternatives.

3.7.7.2 Critical Habitat for the Western Snowy Plover

On 19 June 2012, USFWS published a final rule for the revised designation of critical habitat for the Pacific coast population of the Western Snowy Plover (50 C.F.R. Part 17; USFWS 2012b). With this final

rule, critical habitat was designated in several locations near the Proposed Action. USFWS designated 78 acres of critical habitat for the Pacific coast population of the Western Snowy Plover within Silver Strand State Beach (subunit CA 55F). This is directly north of SSTC-South and extends from the beach on Silver Strand State Beach east to SR-75. A small portion of critical habitat in subunit CA 55F occurs within proposed roadway improvements along SR-75 that would be necessary for ingress and egress into the Coastal Campus. The Proposed Action would involve the removal of 0.15 acre of critical habitat for Western Snowy Plover. There is approximately 82.2 acres within subunit CA 55F, and the removal of 0.15 acre amounts to a loss of approximately 0.19 percent of the critical habitat within subunit CA 55F.

Subunit CA 55F supported at least 10 breeding adults in 2009 (USFWS unpublished data) and eight breeding adults in 2010 (Ryan, in litt. 2010 as referenced in USFWS 2012b). This subunit contained an average flock of 13 wintering Western Snowy Plovers from 2003 to 2010 (USFWS 2012b). The second closest critical habitat subunit to the Proposed Action footprint is subunit CA 55I (5 acres) within the San Diego National Wildlife Refuge, South Bay Unit. Subunit CA 55I is located in the southern portion of San Diego Bay approximately half a mile to the east of the Proposed Action footprint, and supported seven breeding adult Western Snowy Plovers in 2010 (Ryan, in litt. 2010 as referenced in USFWS 2012b). Due to the distance between subunit CA 55I and the Proposed Action footprint, this subunit will not be discussed further in this document.

SSTC-South (listed as Naval Radio Receiving Facility in 50 C.F.R. Part 17) was identified as subunit CA 55H (66 acres) and determined to be exempt from the final critical habitat designation under Section 4(a)(3) of the ESA due to implementation of the 2002 NBC INRMP (USFWS 2012b). It was determined that the NBC INRMP (U.S. Navy 2002) provided sufficient conservation measures and management actions to benefit Western Snowy Plover. The NBC INRMP is in the process of being revised and will include the management strategy identified in the 2010 Silver Strand Training Complex Operations BO (FWS-SDG-08B0503-09F0517). The management strategy outlines actions that contribute to the recovery of Western Snowy Plover through development of cooperative, ecosystem management-based strategies (USFWS 2012b). The management actions to be implemented by the Navy that will benefit Western Snowy Plover in accordance with the NBC INRMP and 2010 SSTC BO (08B0503-09F0517) are included in the Final Rule on the Revised Designation of Critical Habitat for the Pacific Coast population of the Western Snowy Plover (50 C.F.R. Part 17; USFWS 2012b).

Subunit CA 55F on Silver Strand State Beach includes sandy beaches and dune systems immediately inland of an active beach face. Several of the primary constituent elements (PCEs) listed in the Final Rule (50 C.F.R. Part 17; USFWS 2012b) occur adjacent to the Proposed Action footprint and have the potential to be impacted by activities associated with the Proposed Action. PCE (4), which includes "minimal disturbance from the presence of humans, pets, vehicles, or human-attracted predators, which provide relatively undisturbed areas for individual and population growth and for normal behavior" (USFWS 2012b) has the potential to be permanently affected by the Proposed Action.

The Proposed Action involves construction of a new entry control point providing immediate access to SSTC South from SR-75. This new entry control point would be the primary entry and exit point for construction and personnel vehicles accessing the Proposed Action. The proposed improvements to SR-75 would include a new southbound right-turn lane and a new northbound left-turn lane into the proposed Coastal Campus. The ingress/egress to SR-75 would require signalization. The proposed southbound right-turn lane would be 12 feet wide with an 8-foot shoulder and approximately 485 feet long. The proposed northbound left-turn lane would be 12 feet wide and approximately 600 feet long.

These improvements would occur within Caltrans right-of-way. Critical habitat on Silver Strand State Beach extends right up to the west side of SR-75. The southbound deceleration and turn lane would require encroaching onto and removing part of the critical habitat. A chain-link fence currently prevents vehicular access to SSTC-South from this northern point adjacent to SR-75.

Currently, there is minimal human and vehicular activity in the northern portion of SSTC-South adjacent to critical habitat. The Proposed Action would involve installation of a traffic signal, deceleration lane, gate, guards, and associated guard structures adjacent to subunit CA 55F. The deceleration lane would be located within critical habitat, which would involve taking critical habitat to create the lane. Thus, there would be an increase in the amount of disturbance to Western Snowy Plovers in critical habitat from the presence of humans, vehicles, and human-attracted predators.

3.7.7.3 Federally Delisted Wildlife Species

California Brown Pelican

California Brown Pelican was federally listed as endangered on 2 June 1970 for all U.S. populations. The state of California listed California Brown Pelican as endangered on 27 June 1971. The California Brown Pelican was delisted from the Federal ESA list on 17 December 2009.

California Brown Pelican is found in estuarine, marine, subtidal, and marine pelagic waters. It requires water, rocky cliffs, jetties, sandy beaches, or mudflats for roosting, and open water for foraging. Nesting colonies occur on the Channel Islands and the Coronado Islands (Garrett and Dunn 1981). Within California, nesting is restricted to these rocky islands, although onshore nesting has been noted to occur in Baja California. California Brown Pelican will rest on water or inaccessible rocks; however, it will not roost overnight on water (Briggs et al. 1981).

California Brown Pelican is a yearlong diurnal species, and breeds from March to early August. It forages mainly in early morning or late afternoon, or when the tide is rising. The species feeds almost entirely on fish, caught by diving from 18 to 75 feet in the air. The primary food item of the California Brown Pelican in Southern California is northern anchovy (*Engraulis mordax*), although it also feeds on crustaceans, carrion, and other fish. The California Brown Pelican builds a nest that is a small mound of sticks or debris on rocky, or low, bushy slopes of undisturbed islands (Cogswell 1977). The species usually nests on the ground, and less often in bushes (Palmer 1962). Young are dependent on care from adults and are tended by both parents. The species is capable of breeding at approximately 2 to 3 years old. After breeding, individuals will leave the nesting colony and disperse along the entire California coast. Gulls and vultures are typical nest predators.

California Brown Pelican is found primarily within 12 miles of shore, but regularly up to 100 miles away from the coast. They are common along the coast throughout the year. The areal extent of their foraging range off the California coast is greatest in the South California Bight. This wide distribution is likely tied to the presence of several offshore islands that provide roosts and subsea topography that enhances thermal upwelling that support healthy populations of prey items. In San Diego County, the species is common along the coast in winter but occurs throughout the year. Significant roost areas include Torrey Pines State Reserve, La Jolla, Point Loma, and NASNI. The species is uncommon on the Salton Sea from July to September.

The California Brown Pelican population declined sharply in the 1960s due to the introduction of pesticides such as DDT into the food chain, although the population trend is currently increasing. Current threats include oil spills and entanglement in fishing tackle.

California Brown Pelican was observed numerous times flying over SSTC-South and the BSA. This species was often observed flying from San Diego Bay, over the BSA, and out to the Pacific Ocean to the west. California Brown Pelican does not nest in San Diego Bay, but forages and roosts in several locations around San Diego Bay. This species has only been observed flying over the BSA, as there is no suitable foraging, nesting, or roosting habitat within the BSA.

American Peregrine Falcon

American Peregrine Falcon was formerly listed on the Federal endangered species list on 2 June 1970, but later was delisted on 25 August 1999. The State of California listed the subspecies as endangered on 27 June 1971, and then delisted the subspecies. Currently, American Peregrine Falcon is a state fully protected species (State of California 2011). This subspecies was eliminated as a breeding resident from much of continental U.S. during the 1950s, but was reintroduced into its historic range (Johnsgard 1988). In San Diego County, this falcon is a winter visitor and breeding resident, most commonly observed October through May (Unitt 1984). During winter, American Peregrine Falcons have been observed at the Tijuana River Valley, San Diego Bay, San Diego River Valley, Mission Bay Park, Batiquitos Lagoon, Lake Hodges, San Pasqual Valley, San Vicente Reservoir, Mount Israel area, and Sweetwater Reservoir (Ogden 1995). American Peregrine Falcon is primarily found near large bodies of water where it often feeds on waterfowl and shorebirds.

American Peregrine Falcon exhibits a strong fidelity for breeding site locations, and will mate for life (Brown and Amadon 1968). Nest sites are usually located on rock ledges, escarpments, or bluffs. American Peregrine Falcon populations had declined due to pesticide contamination, which caused reduction in reproductive success because of egg shell thinning (Johnsgard 1988). American Peregrine Falcon has made a remarkable recovery, and currently at least one pair nests around San Diego Bay, including the cliffs of Naval Base Point Loma (Unitt 2004). One pair of American Peregrine Falcons attempted to nest along a dike in the San Diego Bay National Wildlife Refuge in 2006. This nest was removed before any young hatched due to falcon predation on adjacent nesting terns (Pagel et al. 2010). American Peregrine Falcon was observed several times perched and hunting around the BSA in 2012 (Figure 3.7-7). There is no suitable nesting habitat within the BSA, but, due to the presence of shorebirds and waterfowl, American Peregrine Falcon has suitable foraging habitat within the BSA.

3.7.8 Nonfederally Listed Rare Wildlife

3.7.8.1 Nonfederally Listed Rare Non-Avian Wildlife

Eleven rare non-avian wildlife species occur or have the potential to occur on SSTC-South. Table 3.7-7 describes these species, along with their sensitivity status, habitat affinities, and potential for occurrence on SSTC-South.

Table 3.7-7
Nonfederally Listed Rare Non-Avian Wildlife Species Present or with Potential to Occur within the BSA and Immediate Vicinity

Species Name	Sensitivity Status[1]	Habitat Affinities	Occurrence on SSTC-South
Globose dune beetle (*Coelus globosus*)	SA	Sparsely vegetated coastal dunes and sand hummocks.	Present in dunes on the west side of SSTC-South outside of the Proposed Action footprint. There is a high potential for this species to occur within the BSA due to the presence of southern foredune habitat.
Sandy beach tiger beetle (*Cicindela hirticollis gravida*)	SA	Sandy beaches subject to tidal flow.	Present on the beach on the west side of SSTC-South. This area is outside the BSA and there is no potential for this species to occur within the Proposed Action footprint.
Tiger beetle (*Cicindela latesignata* ssp. *latesignata*)	SA	Marine littoral zone on mudflats and sandy beaches.	Present on the beach on the west side of SSTC-South. This area is outside the BSA and there is no potential for this species to occur within the Proposed Action footprint.
Wandering skipper (*Panoquina errans*)	SA	Pickleweed with adjacent salt grass.	Present at YMCA Camp Surf in pickleweed; high potential to occur within BSA due to presence of suitable habitat.
Silvery legless lizard (*Anniella pulchra pulchra*)	CSC	Primarily found in oak woodlands, coastal sage scrub, and chaparral with loose soil and leaf litter, but is also found in dunes and beaches under sparse vegetation (Lemm 2006).	Moderate potential to occur. Historically documented by Wagoner and Grizzle (1989), but not found in recent surveys (RECON 2004).
San Diego black-tailed jackrabbit (*Lepus californicus bennettii*)	CSC	Coastal sage scrub, grasslands, playas, and areas with open grassy habitat and shrubs for cover.	Present: spread throughout all vegetation types within the BSA, but prefers Diegan coastal sage scrub and maritime succulent scrub. Few individuals were observed within the Proposed Action footprint due to the lack of suitable habitat.
Mexican long-tongued bat (*Choeronycteris mexicana*)	CSC	Migratory, obligate cave-roosting species that feeds primarily on nectar and pollen of columnar cactus and agaves, as well as nectar-producing landscape plants. Known to roost in man-made structures during the fall and	Moderate potential to migrate through the BSA. Closest known location is on Coronado Cays during surveys in October 2002 (Stokes et al. 2005).

Species Name	Sensitivity Status[1]	Habitat Affinities	Occurrence on SSTC-South
		winter in coastal San Diego County (Stokes et al. 2005).	
Western red bat (*Lasiurus blossevillii*)	CSC	Obligate foliage-roosting species that roosts in trees and forages along wooded edges, riparian areas, and occasionally around artificial lights (Stokes et al. 2005).	Low potential to migrate through the BSA. Closest known location is on Point Loma from January through August 2002 (Stokes et al. 2003).
Western mastiff bat (*Eumops perotis californicus*)	CSC	Colonial roosting species that prefers steep rocky cliffs, but occasionally may use buildings. It forages over scrublands and grasslands (Stokes et al. 2005).	Low potential to migrate through the BSA. Closest known location is on Point Loma during surveys from 1994 to 1995 (P. Brown pers. comm. as cited in Stokes et al. 2003).
Pocketed free-tailed bat (*Nyctinomops femorosaccus*)	CSC	A nonmigratory bat that roosts mainly in rock crevice of rugged cliffs and high rocky outcrops. It may occur in desert scrub, pine-oak forests, and may roost in buildings, caves, and under roof tiles (Navo 2005a).	Low potential to use the BSA. Closest known location is one individual found outside Cabrillo National Monument on 1 October 1998 (D. Stokes, unpub. data).
Big free-tailed bat (*Nyctinomops macrotis*)	CSC	A migratory bat that prefers rugged, rocky habitats in arid landscapes, such as desert shrub. It roosts mainly in rock crevices in cliffs, but may use buildings, caves, and tree cavities (Navo 2005b).	Low potential to migrate through the BSA. Closest known location is on Point Loma in 2002 (Stokes et al. 2003).

[1] SA: Special Animal (this species is mentioned on the State of California Special Animals List 2011)
CSC: CDFW species of special concern; sensitivity status from State of California 2011.
USFWS had maintained "Category 2" (C2) and "Category 3" (C3) species candidate lists, which had the similar function as the state lists for species of concern. However, USFWS has since discontinued the recognition of that term, and dropped the C2 and C3 candidate designations in 1995. CDFW has designated all former C2 and C3 species as "federal species of concern." This is a state designation and does not confer any Federal or state protection or status; therefore, it is not considered in this document. Species that were formerly listed as Federal species of concern are now recorded as occurring on the CDFW Special Animals List (State of California 2011).

Globose Dune Beetle, Sandy Beach Tiger Beetle, and Tiger Beetle

Globose dune beetle (*Coelus globosus*), sandy beach tiger beetle (*Cicindela hirticollis gravid*a), and tiger beetle (*Cicindela latesignata* ssp. *latesignat*a) have been detected outside, but adjacent to, the BSA. These species are known to occur within the beaches on the western side of SSTC-South. These species are not CDFW species of special concern, but are still listed in the most recent CDFW Special Animals list for 2011 (State of California 2011). RECON conducted invertebrate surveys on SSTC-South in 2002 as part of the Final Biological Resources Survey Report for the Naval Radio Receiving Facility, and biologists observed globose dune beetle and sandy beach tiger beetle (RECON 2004).

The trails of globose dune beetles were observed in 2012 in appropriate sandy soils adjacent to dunes along the western fence of SSTC-South. Globose dune beetle was observed in dunes where the native

plant species had not been crowded out by ice plant (RECON 2004; Figure 3.7-7). The Proposed Action footprint includes 2.13 acres of southern foredune habitat near the entry control point. This 2.13-acre piece of habitat is not ideal for globose dune beetle as it is small, linear, and surrounded by ice plant. Implementation of Alternative 1 would not have a significant impact on globose dune beetle. The current management objectives in the 2013 NBC INRMP, designed to remove ice plant and foster native plant communities within southern foredune habitat, would increase the amount of available suitable habitat for this species outside the Proposed Action footprint.

Sandy beach tiger beetles were observed on the beaches among mats of kelp where they feed on kelp flies (RECON 2004; Figure 3.7-7). Tiger beetles were detected on the sandy beaches on the western side of SSTC-South after 1980 (U.S. Navy 1998), and were detected during the RECON survey in 2002 (RECON 2004). Since the Proposed Action alternatives do not extend into the beach areas of SSTC-South where sandy beach tiger beetles and tiger beetles occur, there are no anticipated impacts to these species, and they will not be discussed in detail.

Wandering Skipper

The wandering skipper (*Panoquina errans*), was detected in 2002 in pickleweed on YMCA Camp Surf (RECON 2004; Figure 3.7-7). Surveys have not been conducted since then to determine the extent of habitat occupied by this species. There is pickleweed within the BSA in the southwestern portion just north of YMCA Camp Surf and in the center of the BSA around several vernal pools, and, therefore, there is a high potential for the wandering skipper to occur within the BSA. The locations of potential wandering skipper habitat are outside of the Proposed Action footprint and would not be affected by the Proposed Action. The exact locations of wandering skippers that were detected on YMCA Camp Surf in 2002 (RECON 2004) are shown in Figure 3.7-7.

Silvery Legless Lizard

Silvery legless lizard (*Anniella pulchra pulchr*a) is a CDFW species of special concern. This nocturnal lizard is primarily found in oak woodland, chaparral, coastal sage scrub, pinyon-juniper woodland, and in some urban areas (Lemm 2006). Some silvery legless lizards have been reported in dunes and beach areas under sparse vegetation. The species occurs in loose, friable, sandy soils. The species ranges from sea level to 5,940 feet, and is usually active in the morning and evening. It remains under the soil surface and may come above ground at night during warm weather where it feeds on larval insects, termites, beetles, and spiders (Lemm 2006). The Silver Strand area has several historical records for silvery legless lizard; however, this species was not found during focused surveys in 1998 for the INRMP (U.S. Navy 1998). There is a moderate potential for the silvery legless lizard to occur within the BSA due to the presence of suitable habitat. RECON conducted herpetological surveys in 2002 and this species was not detected (RECON 2004). The main areas where silvery legless lizards may occur are located in dune habitat to the west and outside of the Proposed Action footprint.

San Diego Black-Tailed Jackrabbit

San Diego black-tailed jackrabbit (*Lepus californicus bennetti*i) is a CDFW species of special concern that occurs in suitable semi-open coastal sage scrub, grasslands, and ruderal areas within the BSA. During avian surveys in 2012, biologists scanned habitat in the southern portion of the site and counted more than 40 individuals during a 15-minute period. The San Diego black-tailed jackrabbit breeds throughout

the year, with births occurring primarily April through May (RECON 2004). This species was occasionally observed in ice plant, but primarily was observed in coastal sage scrub, vernal pool habitat, and nonnative grassland in the center and southern portions of the BSA.

Bats

Historically, few bat surveys have been conducted on SSTC-South. Bat roost surveys were conducted on SSTC-South as part of the Naval Radio Receiving Facility (NRRF) Natural Resources Inventory (RECON 2004), and no potential roosts or bat species were identified. Based on known occurrences of bats in the areas, there are five CDFW species of special concern that have a low potential to use the BSA for foraging, or during migration. These species are the following: Mexican long-tongued bat, western red bat, western mastiff bat, pocketed free-tailed bat, and big free-tailed bat. The most recent locations where these species were detected, along with key habitat features necessary for these bats, are discussed below in relation to the BSA.

Bat information for San Diego County was recorded by the San Diego Natural History Museum during Multiple Species Conservation Program Area surveys between 2002 and 2004. During these surveys, a small colony of 18 Mexican long-tongued bats was discovered roosting in a town home in Coronado Cays in October 2002 (Stokes et al. 2005). Coronado Cays are just to the north of the BSA. The Mexican long-tongued bat migrates through coastal San Diego County usually for a few months in the fall and winter in search of pollen and nectar from various columnar cacti and agave as well as landscaped nectar-producing plants (Stokes et al. 2005). The Mexican long-tongued bat may occasionally fly over the BSA during migration and foraging activities. However, the BSA lacks suitable nectaring flowers; therefore, the species has a low potential to migrate through the BSA but is not likely to forage within the BSA.

Bat surveys conducted on Point Loma peninsula (approximately 7.5 miles north of the BSA) from 1994 to 1995 detected the presence of western mastiff bat (P. Brown pers. comm. as cited in Stokes et al. 2003). This is a colonial roosting species that prefers steep rocky cliffs but occasionally may use buildings. It forages over scrublands and grasslands (Stokes et al. 2005). There is no suitable roosting habitat within the BSA; however, there is a low potential for the species to forage over the grassland in the southern portion of the BSA.

Additionally on Point Loma peninsula, a pocketed free-tailed bat was found outside the Cabrillo National Monument visitor's center in October 1998 (D. Stokes, unpub. data). This nonmigratory bat roosts mainly in rock crevices of rugged cliffs and high rocky outcrops. It may occur in desert scrub and pine-oak forests, and may roost in buildings, caves, and under roof tiles. There is a low potential for this species to occur within the BSA due to the lack of nearby cliffs and rocky outcrops.

Bat surveys were also conducted by the U.S. Geological Survey (USGS) in 2002 on Point Loma and Cabrillo National Monument approximately 7.5 miles to the north of the BSA. In 2002, USGS surveys found four bat species, of which two species, western red bat and big free-tailed bat are CDFW species of special concern: The western red bat is an obligate foliage roosting species that typically uses riparian habitat for roosting and foraging. The BSA lacks both of these and therefore this species is not likely to occur within the BSA. The big free-tailed bat is a migratory bat that prefers rugged, rocky habitats in arid landscapes, such as desert shrub. It roosts mainly in rock crevice in cliffs, but may use buildings, caves, and tree cavities. The BSA lacks suitable roosting habitat, but there is a low potential for the species to migrate through the BSA.

The most recent bat roost and acoustic surveys were conducted within the BSA in 2012 to determine the potential use by resident and migratory bats. Surveys were conducted in August and November 2012. Surveys did not find any roosts or bats present within the BSA, however, two canyon bats were detected foraging outside the southeast corner of the BSA (Rahn 2012). The Bat Survey Report for the Naval Base Coronado Coastal Campus at Silver Strand Training Complex South is included in Appendix C. A large portion of the BSA is composed primarily of disturbed habitat (old cement building slabs, paved roads, etc.) and nonnative vegetation (ice plant and nonnative grasses), which does not support the insect prey base that bats require. There is no permanent surface water within the BSA, which limits bat use for drinking and foraging. The buildings and infrastructure within the BSA lack the type of crevices, openings, and areas of shelter that make up the urban habitat that bats can use for roosting. Additionally, the nonnative trees (salt cedar, eucalyptus, acacia, Monterey cypress [*Hesperocyparis macrocarpa*], and Canary Island Palm [*Phoenix canariensis*]) lack the type of exfoliating bark, tree cavities, large leafy vegetation, or dense palm fronds that might provide suitable roosting habitat. Therefore, there is a low potential for bats to forage or roost in the BSA, but bats may occasionally migrate through.

3.7.8.2 Nonfederally Listed Rare Avian Wildlife

Due to the adjacency of SSTC-South to the Pacific Ocean to the west and San Diego Bay to the east, and due to its relatively undeveloped nature, a large number of birds use SSTC-South for foraging, breeding, and migrating. Many waterfowl, shorebirds, and passerines use the Pacific Flyway to migrate north and south, and SSTC-South is located along this flyway. Thus, the potential for various bird species to use SSTC-South as a migratory stop-over, for wintering, or to fly over the site, is high. Table 3.7-8 lists the various nonfederally listed rare avian species that have been detected on SSTC-South to date, or have a potential to occur on SSTC-South or the immediate vicinity.

Table 3.7-8
Nonfederally Listed Rare Avian Species Present or with Potential to Occur within the BSA and Immediate Vicinity

Species Common Name	Species Scientific Name	Sensitivity Status[1]	Breeding/Wintering Habitat	Potential to Occur within the BSA[2]
Brant	*Branta bernicla*	SSC (wintering and staging areas)	Breeds in the tundra and on coastal islands in the Arctic. Winters in salt marshes and estuaries.	Present (flyover); observed flying over BSA. No suitable breeding, foraging or winter habitat is present within the BSA. Observed wintering in the South Bay Marine Biological Study Area.
Harlequin Duck	*Histrionicus histrionicus*	SSC (nesting)	Breeds in mountain streams and rivers, usually in forested regions. Winters primarily in turbulent coastal waters, especially in rocky regions.	Moderate potential to fly over the BSA during migration, or in winter.

Species Common Name	Species Scientific Name	Sensitivity Status[1]	Breeding/Wintering Habitat	Potential to Occur within the BSA[2]
Barrow's Goldeneye	*Bucephala islandica*	SSC (nesting)	Breeds in small, clear lakes and ponds. Winters in marine areas in shallow protected bays, estuaries, and large lakes.	Moderate potential to fly over the BSA during migration or in winter.
Common Loon	*Gavia immer*	SSC(nesting)	Prefers lakes with coves and islands during breeding season. Winters along ocean coasts, bays, and estuaries, and on large reservoirs and slow-moving rivers.	Present (flyover); observed flying over the BSA. No suitable breeding, foraging, or wintering habitat is present within the BSA.
Ashy Storm-Petrel	*Oceanodroma homochroa*	BCC, PIF, SSC (nesting colony)	Breeds on offshore islands. Found out at sea during all seasons.	Low potential to occur within the BSA; could be drawn to nighttime illuminations.
Black Storm-Petrel	*Oceanodroma melania*	BCC, SSC (nesting colony)	Breeds on offshore islands. Found out at sea during all seasons.	Low potential to occur within the BSA; could be drawn to nighttime illuminations.
American White Pelican	*Pelecanus erythrorhynchos*	SSC (nesting colony)	Breeds on lakes throughout the northern Great Plains and mountain west. Winters along the coasts but breeds only inland.	High potential to fly over the BSA; occasionally occurs adjacent to the BSA in San Diego Bay.
Least Bittern	*Ixobrychus exilis*	BCC, SSC (nesting)	Found in freshwater or brackish marshes with tall emergent vegetation throughout all seasons.	Low potential to fly over, and/or forage within the BSA.
White-tailed Kite	*Elanus leucurus*	FP	Breeds and winters in savanna, open woodlands, marshes, desert grassland, partially cleared lands, and cultivated fields.	Present; observed foraging within the BSA; no suitable breeding habitat present within the BSA.
Northern Harrier	*Circus cyaneus*	SSC (nesting)	Breeds and winters in open wetlands, meadows, pastures, prairies, grasslands, croplands, and riparian woodlands.	Present; observed foraging in the BSA but no suitable breeding habitat is present within the BSA.

Species Common Name	Species Scientific Name	Sensitivity Status[1]	Breeding/Wintering Habitat	Potential to Occur within the BSA[2]
Mountain Plover	*Charadrius montanus*	BCC, PIF, SSC (wintering)	Breeds on open plains at moderate elevations. Winters in short-grass plains and fields, plowed fields, and sandy deserts.	Moderate potential to fly over or use the BSA as stop-over habitat during migration.
American Oystercatcher	*Haematopus palliatus*	PIF	Breeds in coastal habitats, including sand or shell beaches, dunes, salt marsh, marsh islands, mudflats, and dredge spoil islands made of sand or gravel. In migration and winter found on mud or sand flats exposed by the tide, or on shellfish beds.	Low potential to fly over the BSA on migration, or in winter.
Black Oystercatcher	*Haematopus bachmani*	BCC, PIF	Rocky seacoasts and islands, less commonly sandy beaches.	Low potential to fly over the BSA on migration or in winter.
Whimbrel	*Numenius phaeopus*	BCC	Breeds in various tundra habitat, from wet lowlands to dry heath. In migration, frequents various coastal and inland habitats, including fields and beaches. Winters in tidal flats and shorelines, occasionally visiting inland habitats.	Present; observed foraging in BSA during the winter. No suitable breeding habitat is present within the BSA.
Long-billed Curlew	*Numenius americanus*	BCC, PIF	Breeds in sparse, short grasses, including shortgrass and mixed-grass prairies, as well as agricultural fields. Winters at wetlands, tidal estuaries, mudflats, flooded fields, and occasionally beaches.	Present (flyover); observed flying over BSA; high potential to forage within BSA during the winter; occurs immediately adjacent to the BSA within the South Bay Marine Biological Study Area. No suitable breeding habitat is within or adjacent to the BSA.

Species Common Name	Species Scientific Name	Sensitivity Status[1]	Breeding/Wintering Habitat	Potential to Occur within the BSA[2]
Marbled Godwit	*Limosa fedoa*	BCC	Breeds in marshes and flooded plains in migration and winter, also on mudflats and beaches.	Present (flyover); observed flying over BSA during the winter; occurs along the beach immediately adjacent to and west of the BSA. Does not breed or winter in the BSA.
Red Knot	*Calidris canutus*	BCC	Breeds in drier tundra areas, such as sparsely vegetated hillsides. Outside of breeding season, found primarily in intertidal, marine habitats, especially near coastal inlets, estuaries, and bays.	High potential to fly over and/or forage within the BSA during migration, Known to occur in the nearby San Diego Bay National Wildlife Refuge.
Short-billed Dowitcher	*Limnodromus griseus*	BCC	Breeds in muskegs of taiga to timberline, and barely onto subarctic tundra. Winters on coastal mud flats and brackish lagoons. In migration prefers saltwater tidal flats, beaches, and salt marshes.	Present (flyover); observed flying over BSA; may forage within vernal pools in the southern portion of the BSA during the winter and migration. No suitable breeding habitat is present in the BSA.
Gull-billed Tern	*Gelochelidon nilotica*	BCC, PIF, SSC (nesting colony)	Breeds on gravelly or sandy beaches. Known to breed in the San Diego Bay National Wildlife Refuge. Winters in salt marshes, estuaries, lagoons, and plowed fields, and less frequently along rivers, around lakes, and in freshwater marshes. Does not winter in California.	Present; observed foraging within the BSA; no suitable breeding habitat present within the BSA.
Black Tern	*Chlidonias niger*	SSC (nesting)	Breeds in freshwater wetlands and marsh. Does not winter in North America. During migration, uses large lakes and coastlines.	Moderate potential to fly over the BSA; occasionally occurs adjacent to the BSA in the San Diego Bay National Wildlife Refuge.

Species Common Name	Species Scientific Name	Sensitivity Status[1]	Breeding/Wintering Habitat	Potential to Occur within the BSA[2]
Elegant Tern	*Thalasseus elegans*	PIF	Breeds on low, flat, sandy islands along the west coast of Southern California and northern Mexico. Known to breed in the San Diego Bay National Wildlife Refuge. It winters on the west coast of Mexico and down into South America	Present (flyover); observed flying over BSA. No suitable breeding habitat is present in the BSA.
Black Skimmer	*Rynchops niger*	BCC, SSC (nesting colony)	In breeding and winter seasons, found on open sandy beaches and on gravel or shell bars with sparse vegetation in salt marsh. Breeds in San Diego Bay National Wildlife Refuge.	Present (flyover); observed flying over BSA. No suitable breeding habitat is present in the BSA.
Burrowing Owl	*Athene cunicularia*	BCC, PIF, SSC (burrow sites and some winter sites)	Breeds and winters in flat, open terrain with soft soil, short grass, sparsely distributed vegetation, or exposed ground. Also found along the banks of irrigation canals. Known to breed on NASNI and NOLF IB.	Present; observed wintering within the BSA; no breeding records exist for SSTC-South to date.
Short-eared Owl	*Asio flammeus*	BCC, SSC (nesting)	Breeds and winters in open country, including prairie, meadows, tundra, moorlands, marshes, savanna, and open woodland.	Present; observed wintering at SSTC-South, but no suitable breeding habitat is present within the BSA.
Black Swift	*Cypseloides niger*	BCC, SSC (nesting)	Breeds in forested areas near rivers. Nests are often located behind waterfalls or on damp cliffs. Seen in the open sky over mountainous areas and on coastal cliffs. Does not winter in North America.	Moderate potential to fly over the BSA during migration.

Species Common Name	Species Scientific Name	Sensitivity Status[1]	Breeding/Wintering Habitat	Potential to Occur within the BSA[2]
Vaux's Swift	*Chaetura vauxi*	SSC (nesting)	Nests in coniferous or mixed forest. Forages in forest openings, especially above streams. Small numbers winter in North America.	Present; observed migrating through the southern part of the BSA. No suitable breeding habitat is present within the BSA.
Costa's Hummingbird	*Calypte costae*	BCC	Breeds in desert and semi-desert, arid brushy foothills and chaparral. Individuals remaining into winter will use desert scrub and coastal areas in parks or gardens.	Moderate potential to fly over and/or forage within the BSA during migration.
Allen's Hummingbird	*Selasphorus sasin*	BCC	Breeds in moist coastal areas, scrub, chaparral, and forests. Winters in forest edge and scrub clearings with flowers.	Present; observed migrating through the BSA. No suitable breeding habitat is present within the BSA.
Lewis's Woodpecker	*Melanerpes lewis*	BCC, PIF	Breeds in open forests with brushy understory and snags. Winters in open woodlands.	Low potential to fly over and/or forage within the BSA during migration.
Nuttall's Woodpecker	*Picoides nuttallii*	BCC	Breeds and winters in oak woodlands and in riparian woods; rarely in conifers.	Low potential to fly over and/or forage within the BSA.
Willow Flycatcher	*Empidonax traillii*	SE (nesting)	Breeds in riparian habitat with dense understory, open midstory, and moderately closed canopy. Nests are usually placed close to water.	Present; observed foraging within the BSA during migration; no suitable breeding habitat present in the BSA.
Olive-sided Flycatcher	*Contopus cooperi*	PIF, SSC (nesting)	Breeds in montane and northern coniferous forests, and at forest edges and openings such as meadows and ponds. Does not winter in North America.	Present; observed foraging within the BSA during migration; no suitable breeding habitat present on the BSA.
Loggerhead Shrike	*Lanius ludovicianus*	BCC, PIF, SSC	Breeds and winters in open country, including grasslands where there are scattered trees, tall shrubs, fence posts, utility wires, or other lookout posts.	Present; observed wintering within the BSA; no breeding records exist for SSTC-South to date.

Species Common Name	Species Scientific Name	Sensitivity Status[1]	Breeding/Wintering Habitat	Potential to Occur within the BSA[2]
Purple Martin	*Progne subis*	SSC (nesting)	In the west, breeds in woodpecker holes in mountain forests or Pacific lowlands. Does not winter in North America.	Moderate potential to fly over the BSA during migration.
Coastal Cactus Wren	*Campylorhynchus brunneicapillus sandiegensis*	BCC, PIF, SSC	Breeds and winters in coastal sage scrub, including prickly pear and/or cholla cacti; found only in coastal and near-coastal portions of California, generally below 3,000 feet.	Low potential to fly over and/or forage in the BSA; no suitable breeding habitat is present in the BSA.
Sage Thrasher	*Oreoscoptes montanus*	PIF	Breeds in open, shrub-steppe country, preferring sagebrush or bitterbrush, with native grasses intermixed. Winters in thickets; often found along creek drainages.	Moderate potential to fly over and/or forage in the BSA during migration.
Yellow Warbler	*Dendroica petechia*	BCC, SSC (nesting)	Breeds in thickets and other disturbed or regrowing habitats, particularly along streams and wetlands. Very few winter in North America in similar habitats.	Present: observed foraging in the BSA during migration. No suitable breeding habitat exists within the BSA.
Brewer's Sparrow	*Spizella breweri*	PIF	Breeds within sagebrush, preferring dense stands broken up with grassy areas. In winter favors low, dry vegetation.	Present; observed wintering within the BSA. No breeding habitat is present in the BSA.
Large-billed Savannah Sparrow	*Passerculus sandwichensis rostratus*	SSC	Breeds in open, low salt marsh vegetation, including grasses, pickleweed, and iodine bush (does not breed in North America). Winters along shorelines within its California nonbreeding range.	Moderate potential to fly over and/or forage within the BSA.

Species Common Name	Species Scientific Name	Sensitivity Status[1]	Breeding/Wintering Habitat	Potential to Occur within the BSA[2]
Belding's Savannah Sparrow	*Passerculus sandwichensis beldingi*	SE	Resident in salt marshes with dense pickleweed, particularly *Salicornia virginica*, within which most nests are found. Found in areas with tidal flow.	Present; observed foraging and vocalizing within the BSA. Suitable nesting habitat is present on the east side of SR-75. No nesting observed within the BSA.
Grasshopper Sparrow	*Ammodramus savannarum*	PIF, SSC (nesting)	Breeds and winters in open grasslands and prairies with patches of bare ground.	Present; observed breeding within the BSA, but not within the Proposed Action footprint.
Tricolored Blackbird	*Agelaius tricolor*	BCC, PIF, SSC (nesting colony)	Breeds near freshwater, especially marshy areas. The most favored sites for colonies are heavy growths of cattails and tules. Winters near pastures, dry seasonal pools, agricultural fields, rice fields, feedlots, and dairies.	Low potential to fly over and/or forage within the BSA.
Yellow-headed Blackbird	*Xanthocephalus xanthocephalus*	SSC (nesting)	Breeds in colonies in freshwater marshes in dense reedy vegetation.	Present; observed migrating through the southern part of the BSA. No suitable breeding habitat exists within the BSA.
Lawrence's Goldfinch	*Spinus lawrencei*	BCC	Breeds and winters near open woodlands, chaparral, and weedy fields.	Present (flyover); observed flying over the BSA during migration.

[1] BCC: Bird of Conservation Concern
SSC: State Species of Special Concern
SE: State Endangered
FP: State fully protected species
BCC species from Bird Conservation Region (BCR) 32 (Coastal California U.S. Portion only) *Birds of Conservation Concern* (USFWS 2008d). Partners In Flight (PIF) species from DoD PIF Priority Species list (DoD 2011).
SSC species from State of California Special Animals List (State of California 2011).
Within the sensitivity status column, parentheses around nesting, wintering, staging, nesting colony, and burrow sites indicate that the particular sensitivity status applies to the species when the species is nesting, wintering, staging, in a nesting colony, or its burrow sites.
[2] Species potential to occur was based on the most recent biological surveys conducted by AECOM in 2012, San Diego Bay Avian Species Report (Tierra Data 2011), RECON 2004, and U.S. Navy 2011b.

The San Diego Bay Avian Surveys conducted in 2009 and 2010 (Tierra Data 2011) covered most of the shoreline and off-shore areas surrounding SSTC-South. Only two avian point counts occurred on SSTC-South, and only one of those point counts actually occurred within the BSA for the Proposed Action. Therefore, 1 year of avian surveys was conducted from winter of 2012 to winter of 2013 to determine which avian species may be using the land on SSTC-South within the BSA for breeding, foraging, and migrating. Since the San Diego Bay avian surveys focused primarily on avian species use of San Diego Bay, limited data could be used to determine species breeding, foraging, and migrating through the BSA. The San Diego Bay avian survey data were reviewed to ensure that no sensitive birds detected during those surveys were excluded from consideration for their potential to occur within the BSA. These combined data sets provide a solid foundation for avian use of the BSA.

A complete synopsis of the life history, habitat requirements, closest known population locations, and potential to occur for the nonfederally listed sensitive species observed within the BSA is located in the Avian Summary Report in Appendix C. For species that were observed foraging within the BSA (and not just flying overhead between San Diego Bay and the Pacific Ocean), the approximate location at the time of observation is included in Figure 3.7-7.

The BSA within the SSTC-South can be roughly separated into two halves: a northern half that is largely urban/developed and disturbed (covered with nonnative vegetation such as ice plant) and a southern half that is largely dominated by native plants and habitats (such as vernal pools, ephemeral wetlands, Diegan coastal sage scrub, and maritime succulent scrub). Within the more developed northern half of the BSA, BUC points 1 through 4 were all located in urban/developed and disturbed habitats where the Proposed Action would be located. These BUC points accounted for fewer total species, a lower species richness, and fewer birds overall than BUC points 5 through 8, which were sited in native habitat (in the southern half of the BSA). Of the listed or sensitive species observed utilizing the site (not just observed flying over), the majority of sensitive avian species were observed wintering and foraging in the southern part of the BSA. The only sensitive species (Grasshopper Sparrow) observed nesting within the BSA during the study was located in the southern half of the BSA.

The Proposed Action would be developed primarily within the northern part of the BSA, which would have little impact on habitat used by most of the sensitive species. No nesting locations of any U.S. Fish and Wildlife Service Birds of Conservation Concern (USFWS BCC), Department of Defense Partners in Flight Priority Species (DoD PIF), or California Department of Fish and Wildlife Species of Special Concern (CDFW SSC) sensitive avian species were detected where the Proposed Action would be located. With the exception of the paraloft at 120 feet tall and potentially several rooftop communication antennas, all other buildings would be limited in height to 45 feet or the height of the largest existing bunker, Building 99. Birds would be able to fly over the buildings during migration and foraging flights (between San Diego Bay and the Pacific Ocean). The southern part of the BSA would be left in its current state and avian species would continue to be able to use the various habitats for nesting, foraging, roosting, and migrating.

A total of 154 bird species were detected during the year of avian surveys between February 2012 and February 2013. Of these 154 species, three were federally listed as endangered, two were federally delisted, and two were state listed as endangered. Additionally, 22 species were nonfederally listed sensitive species based on lists from USFWS BCC, DoD PIC, and CDFW SSC. A total of 10 species were confirmed breeding within the BSA during the study, with the most common being: House Finch (*Carpodacus mexicanu*s), Mourning Dove (*Zenaida macrour*a), and Anna's Hummingbird (*Calypte ann*a).

The most common species that fly over the BSA, because they breed outside the BSA, include various species of terns, gulls, pelicans, and other waterbirds. Several species use the BSA simply for foraging during the breeding season: White-crowned Sparrow (*Zonotrichia leucophrys*), Western Meadowlark (*Sturnella neglecta*), Savannah Sparrow (*Passerculus sandwichensis*), and Yellow-rumped Warbler (*Dendroica coronata*). Overall, avian diversity and richness across the year was around five species per BUC and around nine species per BAS. More species were detected during periods of migration (particularly in April and October), and an increase in avian observations in July was related to the increase in trips that adult terns had to take between San Diego Bay and the Pacific Ocean to feed their young.

3.7.9 Wildlife Corridors

SSTC-South is used by a variety of wildlife species for several movement purposes. Wildlife movement activities typically fall into one of three movement categories: local and regional dispersal (e.g., juvenile animals from natal areas or individuals extending range distributions), regional seasonal migration, and local movements related to home range activities (foraging for food or water, defending territories, and searching for mates, breeding areas, or cover).

At the local level, wildlife species are likely to use all undeveloped habitat on SSTC-South for movements related to dispersal and home range activities. This includes mammals such as San Diego black-tailed jackrabbit and coyote (*Canis latrans*), as well as dispersing birds that breed on SSTC-South, such as Horned Lark (*Eremophila alpestris*), House Finch, Great Horned Owl (*Bubo virginianus*), Anna's Hummingbird, Mourning Dove, and other species. Additionally, avian species that breed in San Diego Bay but forage over open water routinely fly over SSTC-South in an east/west direction. During avian surveys conducted for the Proposed Action in 2012 and 2013, many species, including California Brown Pelican, California Least Tern, Double-crested Cormorant (*Phalacrocorax auritus*), various tern and shorebird species, and other birds, were observed flying across SSTC-South from San Diego Bay to the Pacific Ocean and back. Migrating passerines were primarily observed flying in a south/north direction as they were migrating through SSTC-South from their wintering grounds in South America to their breeding grounds farther north. Similar movements southward were observed in the fall, as passerines headed south for the winter.

At the regional scale, habitat on SSTC-South is part of a coastal linkage that connects habitat along the California coast to the north to habitat in Baja California to the south. The undeveloped beaches of SSTC-South provide critical breeding and wintering habitat for Western Snowy Plover and other shorebirds.

SSTC-South is also part of the Pacific Flyway, a major north/south migration route for birds that travel between North and South America. In Southern California, this migratory pathway spans a broad front, and migrating birds are not uniformly distributed across the landscape. Migrating birds are generally concentrated along the coast during the fall and in the deserts and mountains in the spring. However, local conditions influence the distribution of migrating birds within these general areas, including latitude, weather, topography, vegetation, and elevation.

San Diego Bay, east of SSTC-South, contains a large amount of protected, shallow bay habitat that many birds migrating along the Pacific Flyway use to stop-over, rest, and refuel. The protected bay provides critical wintering habitat for many species of waterfowl and shorebirds, including Surf Scoters (*Melanitta perspicillata*), Brant (*Branta bernicla*), and Bufflehead (*Bucephala albeola*) (USFWS 1995).

Several factors influence the number of migrating birds that pass through SSTC-South, including latitude, topography, vegetation, and elevation. Due to its relatively low latitude within the Pacific Flyway, a large percentage of the birds that breed at northern latitudes find their wintering locales before reaching San Diego County. Large numbers of water birds winter along the coast of California, Oregon, and Washington. Small birds wintering farther south (e.g., Mexico to South America) largely follow the coast or deserts, avoiding the more turbulent air found over the mountains.

3.7.10 Environmental Consequences

The following sections analyze the potential environmental impacts associated with construction and operation of the Proposed Action alternatives. This includes permanent and temporary direct and indirect impacts that may occur to federally listed and sensitive biological resources.

3.7.10.1 Approach to Analysis

The Proposed Action footprint includes the areas where permanent and temporary direct impacts will occur. The footprint includes the area where a utility easement may upgrade an existing California American Water Company water line. The Proposed Action footprint was designed with an approximate 300-foot setback from southern foredune habitat that is occupied nesting Western Snowy Plover habitat, and a 50-foot buffer that was placed around vernal pool watersheds and wetland vegetation community types (coastal and valley freshwater marsh, and southern coastal salt marsh). Since the construction footprints of Alternatives 1 and 2 and the portion of Alternative 3 that includes SSTC-South that comprise the Proposed Action footprint are all the same, the impacts to habitat are also generally the same for the alternatives. The only difference is that Alternatives 2 and 3 would not involve demolition of Building 99, and thus would not have as much developable area as Alternative 1. Figures 3.7-9a, 3.7-9b, and 3.7-10 show the boundaries of Alternatives 1, 2, and 3. Figure 3.7-9b specifically shows the biological resources and potential impacts to those resources around the proposed entry control point. It is assumed that no construction-related activities would take place outside the Proposed Action footprint.

This section describes the potential direct and indirect impacts on biological resources that would result from construction and operation of Alternatives 1, 2, and 3. Especially relevant to significance determination are the effect and severity of the impact on regulated or otherwise protected biological resources, specifically jurisdictional waters, federally listed (threatened or endangered) species and the habitats they occupy, and migratory birds covered under the MBTA. Biological impacts are defined as follows:

- Direct impacts are caused by the action and occur at the same time and place as the action, such as removal of vegetation by grading or direct mortality of species. Direct impacts occur within the action footprint. Direct impacts may be either temporary (reversible: e.g., alteration, disturbance, or destruction that can be restored) or permanent (irreversible: e.g., alteration, disturbance, or destruction that cannot or would not be restored).

- Indirect impacts occur later in time or are farther removed in distance but are still reasonably foreseeable and attributable to project-related activities. Indirect impacts occur outside of the action footprint.

This EIS analyzes construction and operation impacts to biological resources associated with the Proposed Action. Impacts are discussed as relevant to the resource.

Source: TierraData 2011; U.S. Navy 2011, 2012; ESRI; AECOM 2012

700 350 0 700 Feet

Scale: 1:8,400; 1 inch = 700 feet

Figure 3.7-9a
Indirect Impacts
Alternatives 1 and 2

Path: P:\2011\60236207\06GIS\6.3_Layout\EIS\November_2014\fig3_7_9a_Alt1_IndirectImpacts.mxd, 3/17/2015, SorensenJ

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Source: TierraData 2011; U.S. Navy 2011, 2012; ESRI; AECOM 2012

150 75 0 150 Feet

Scale: 1:1,800; 1 inch = 150 feet

Figure 3.7-9b
Indirect Impacts
Entrance Improvements and Alternatives 1 and 2

Path: P:\2011\60236207\06GIS\6.3_Layout\EIS\November_2014\fig3_7_9b_Entrance_IndirectImpacts.mxd, 11/24/2014, SorensenJ

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Source: ESRI 2013

Scale: 1:79,200; 1 inch = 1.25 miles
Inset Scale: 1:12,000; 1 inch = 1,000 ft

Figure 3.7-10
Indirect Impacts
Alternative 3

Path: P:\2011\60236207\06GIS\6.3_Layout\EIS\October_2014\fig3_7_10_Alt3_IndirectImpacts.mxd, 10/23/2014, SorensenJ

General Impacts for Alternatives 1, 2, and 3

Impacts that would result from construction and operation of the Proposed Action associated with Alternatives 1, 2, and 3 include the following:

- Permanent direct impacts are irreversible construction-related impacts. They were analyzed for construction of new facilities and associated infrastructure. It was assumed that there would be 100 percent permanent direct impacts to all vegetation communities and habitats within the Proposed Action footprint (excluding utility easements) for Alternatives 1, 2, and 3 (Figures 3.7-9a and 3.7-10). There is federally listed species-occupied habitat, critical habitat, and wetland vegetation communities that have the potential for permanent direct impacts as a result of construction of Alternative 1, 2, or 3.

- Temporary direct impacts are reversible impacts within the action footprint. Temporary direct impacts were analyzed for the proposed construction of all alternatives for all new facilities and associated infrastructure. Usually temporary direct impacts occur within the action area and are later restored. Utility easements such as the proposed sewer and natural gas lines, and potential relocation of the California American Water Company water line would be temporary direct impacts that would later be restored. Temporary direct impacts may still occur while construction is taking place. Cranes and other construction equipment within the Proposed Action footprint could provide perching for raptors and other avian predators and increase predation on nearby or adjacent nesting birds.

- Potential permanent indirect impacts are operational-associated impacts that impact adjacent resources (e.g., the potential introduction of invasive pest species into newly disturbed areas that spread into adjacent undisturbed areas). Changes in the hydrological regime may impact habitats and vegetation communities supporting listed species. Additionally, new buildings, lighting, and other permanent structures could provide new perch locations for raptors and other avian predators, thereby increasing predation on nearby and adjacent nesting birds. There is the potential for an increase in trash, which may lead to an increase in predatory and scavenging species. Also, landscaped trees may potentially provide perch, roost, and nest locations for predatory avian species. The potential increase in unauthorized beach recreation activities through use of new project facilities could cause permanent indirect impacts to breeding birds.

- Potential temporary indirect impacts are construction-associated activities and impacts that affect adjacent resources. Potential temporary indirect impacts are caused by project construction (e.g., construction-generated fugitive dust, erosion, noise, nighttime construction lighting, ambient lighting, runoff, and sedimentation) and are evaluated for habitats occupied by San Diego fairy shrimp, Western Snowy Plover, Light-footed Ridgway's Rail, and migratory birds (including the California Least Tern) covered under the MBTA. Generally, temporary indirect impacts for faunal species were considered up to 500 feet from the Proposed Action footprint. Similar potential temporary indirect impacts caused by project construction are evaluated for plant communities and other cover types, jurisdictional waters, and habitats occupied by federally listed and other special status plant species up to 100 feet from the proposed facilities.

Table 3.7-9 details the specific impact avoidance and minimization measures per biological resource. These measures are discussed in Section 5.7.

Table 3.7-9
Impact Avoidance and Minimization Measures per Resource

Resource	Section	Measure Numbers
General	5.7.1	B-1 through B-22
Federally Listed Wildlife		
San Diego Fairy Shrimp	5.7.2.1	B-23 through B-25
Western Snowy Plover,	5.7.2.2	B-26 through B-31
Critical Habitat for the Western Snowy Plover	5.7.2.3	B-32 through B-34
Nonfederally Listed Rare Wildlife		
Bats	5.7.3.1	B-35
Migratory Birds	5.7.3.2	B-36 and B-38

Acreages of the different plant communities and other cover types that will be permanently directly removed by the Proposed Action are listed in Table 3.7-10. The footprint of Alternatives 1, 2, and the SSTC-S portion of Alternative 3 listed below in Table 3.7-10 are the same since the only difference between the alternatives is the removal or retention of Building 99 (4.6 acres). The area of Building 99 is considered urban/developed habitat regardless whether it is retained or demolished. Alternatives 2 and 3 would have 4.6 acres less developable area because Building 99 would be retained.

Table 3.7-10
Acreage of Proposed Action Footprint for Alternatives 1, 2, and 3

Plant Communities and Other Cover Types	Proposed Action Footprint Acreage (excluding utilities) on SSTC-South for Alternatives 1, 2, and 3	Alternative 3 Acreage (NASNI)	Alternative 3 Acreage (NAB Coronado)	Total
Coastal and Valley Freshwater Marsh	-	-	-	-
Southern Coastal Salt Marsh	-	-	-	-
Vernal Pool	-	-	-	-
Diegan Coastal Sage Scrub	0.35	-	-	0.35
Nonnative Grassland	0.02	-	-	0.02
Southern Foredunes	0.38[1]	-	-	0.38[1]
Urban/Developed	52.04	2.68	6.27	60.99
Disturbed Habitat	114.06	-	-	114.06
Total	**166.85**	**2.68**	**6.27**	**175.8**

[1] Includes 0.15 acre of Western Snowy Plover critical habitat

Table 3.7-11, below, details the potential temporary direct impacts to various plant communities and other cover types that would occur through the installation of the relocated California American Water Company water line within the utility easement along the western boundary of the Proposed Action footprint.

Table 3.7-11
Temporary Direct Impacts per Plant Community and Cover Type

Plant Communities and Other Cover Types	Proposed Sewer and Natural Gas Lines (same for all Alternatives)	Proposed Relocated Water Line Easement (same for all Alternatives)	Total
Nonnative Grassland	0.11	-	0.11
Southern Foredunes	-	0.18	0.18
Urban/Developed	1.22	0.96	2.18
Disturbed Habitat	0.01	1.85	1.86
Total	**1.34**	**2.99**	**4.33**

The water line relocation would be the same for Alternatives 1, 2, and 3. Plant communities and other cover types would be temporarily disturbed during installation of the water line, but then would be backfilled.

3.7.10.2 No Action Alternative

Impacts

If the No Action Alternative is implemented, the Navy would maintain the existing land and facilities currently used at SSTC-South, NAB Coronado, and NASNI. None of the proposed construction or improvements would occur. There would be no additional impacts to any biological resources because the Proposed Action alternatives would not be constructed and current conditions would remain in place.

Mitigation Measures and Impact Avoidance and Minimization Measures

No mitigation measures or impact avoidance and minimization measures are proposed.

3.7.10.3 Alternative 1 – SSTC-South Bunker Demolition Alternative (Preferred Alternative)

Impacts

3.7.10.3.1 Plant Communities

Direct Impacts

Permanent direct impacts to the following plant communities and cover types would occur through vegetation removal by construction of Alternative 1 as listed below in Table 3.7-12. The acreages of temporary direct impacts to plant communities and cover types are listed in Table 3.7-11.

Table 3.7-12
Potential Permanent Direct Impacts to Plant Communities and Other Cover Types Associated with Alternative 1 (Preferred Alternative) (acres)

Plant Communities and Other Cover Types	Alternative 1 Permanent Impacts[1]
Uplands	
Diegan Coastal Sage Scrub	0.35
Nonnative Grassland	0.02
Southern Foredunes	0.38
Other Cover Types	
Disturbed Habitat	114.06
Urban/Developed	52.04
Total	**166.85**

[1] Acreages apply for areas within Alternative 1 that occur within the Proposed Action footprint and exclude the utility easements.

Diegan Coastal Sage Scrub

A total of 0.35 acre would be permanently directly removed by Alternative 1. Several nonfederally listed special status plant species are known to occur in this habitat, including less than 100 individuals of Nuttall's lotus and two individuals of California boxthorn. Alternative 1, with the measures to protect this habitat and for these plant species outside of the Project Action footprint, would not have a significant impact to Diegan coastal sage scrub.

Nonnative Grassland

A total of 0.02 acre would be permanently directly removed, while 0.11 acre would be temporarily disturbed by Alternative 1. One nonfederally listed special status plant species occurs in this habitat: several individuals of California boxthorn. Alternative 1, with the measures to protect this habitat and these plant species outside the Proposed Action footprint, would not have a significant impact to nonnative grassland.

Southern Foredunes

A total 0.38 acre would be permanently directly removed, while 0.18 acre would be temporarily disturbed by Alternative 1. Two nonfederally listed plant species, Nuttall's lotus and coast woolly-heads, occur in this habitat. Relocation of the California American Water Company water line along the western edge of SSTC-South would cause a temporary impact to dune habitat in an area that is occasionally disturbed by vehicles on SSTC-South. Alternative 1, with the measures to protect this habitat and these plant species outside the Proposed Action footprint, would not have a significant impact to southern foredunes.

Urban/Developed

A total of 52.04 acres of this habitat would be permanently directly removed, while 2.18 acres would be temporarily disturbed by Alternative 1. Two nonfederally listed special status plant species occur within this cover type in Alternative 1: several thousand individuals of Nuttall's lotus, and a few Orcutt's pincushion (located within the utility easement). Of the 52.04 acres to be permanently directly removed, several thousand individuals of Nuttall's lotus are spread throughout Alternative 1. Alternative 1, with the measures outlined in Section 5.7, would not have a significant impact to urban/developed habitat.

Disturbed Habitat

A total of 114.06 acres of this habitat would be permanently directly removed, while 1.86 acres would be temporarily disturbed by Alternative 1. Two nonfederally listed special status plants occur in this habitat in Alternative 1: one individual of San Diego barrel cactus and several thousand individuals of Nuttall's lotus. Alternative 1, with the measures outlined in Section 5.7, would not have a significant impact to disturbed habitat.

Indirect Impacts

Indirect impacts could occur to several plant communities that exist within 100 feet of Alternative 1. Impacts may occur to all plant communities and cover types within the BSA. Temporary indirect impacts may include construction-related fugitive dust, erosion, runoff, and unauthorized trespass. These impacts, anticipated to be minimal due to the implementation of measures described in Section 5.7, include worker environmental briefings, biological monitoring, non-disturbance buffers in vernal pool areas, and BMPs. BMPs are especially crucial around southern coastal salt marsh, due to the presence of salt marsh bird's beak.

Permanent indirect impacts may include altering hydrological regime or the introduction of weedy or invasive plants. Measures described in Section 5.7 include the capture of storm water coming off the Proposed Action and preventing it from entering vernal pool watersheds, and the washing of all equipment to remove weed seeds prior to entering the Proposed Action footprint.

3.7.10.3.2 Waters of the U.S.

Direct Impacts

No waters of the U.S. (including federally defined wetland) occur within the main Coastal Campus area of Alternative 1. There are, however, a few areas of jurisdictional waters that would be crossed by utility easements. Both the proposed sewer and natural gas lines cross waters of the U.S. Figure 3.7-2 shows the areas where utility easements cross both unvegetated other waters and wetland waters of the U.S. Table 3.7-13 details the acreages of the temporary direct impacts to waters that may result through the proposed installation of the utility easements (sewer and natural gas). The utility easements would cross a few small culverts and drainages which would be avoided to the greatest extent possible and restored to their previous condition. Utility easements may potentially (temporarily) impact up to 0.01 acre of non-wetland jurisdictional waters of the U.S. and USACE wetland.

Table 3.7-13
Temporary Direct Impacts to Wetlands
from Utility Easements

Plant Communities and Other Cover Types	Utility Easements
Non-wetland jurisdictional waters of the U.S.	0.005
USACE Wetland	0.005
Total	**0.01**

The proposed sewer and natural gas line which would be trenched into Hooper Boulevard (a paved road), cross several small drainages that are considered waters of the U.S. in the form of unvegetated other waters and federally defined wetland. The construction of Alternative 1 would not have a significant direct impact to waters of the U.S. provided measures such as BMPs, biological monitoring and worker environmental awareness are implemented.

Indirect Impacts

There are jurisdictional waters of the U.S. that have the potential to be indirectly impacted through construction- or operation-related dust, runoff, or sedimentation. Any storm water generated in the Proposed Action footprint, through project construction or operation, would be captured and prevented from flowing into jurisdictional waters. Alternative 1, with the measures outlined in Section 5.7.1 such as BMPs and biological monitoring, would not have a significant impact to waters of the U.S.

3.7.10.3.3 Federally Listed Plants

Direct Impacts

Currently, no federally listed plant species are present in the Alternative 1 footprint; therefore, no direct impacts would occur to federally listed plant species. The closest known location of the federally listed salt marsh bird's beak is inside the fenced area of YMCA Camp Surf and would not be impacted by construction or operation of Alternative 1. In the USFWS Informal Consultation Concurrence Letter, the USFWS ESA determination concluded that the Proposed Action may affect, but is not likely to adversely affect, salt marsh bird's beak.

Indirect Impacts

No indirect impacts to federally listed plant species are expected to occur due to the construction and operation of Alternative 1 because no federally listed plant species occur within the footprint of this alternative or within 100-feet of the footprint.

3.7.10.3.4 Nonfederally Listed Special Status Plant Species

Direct Impacts

Nonfederally listed special status plants that are known to occur and that would be permanently directly impacted by development of Alternative 1 include the following: Nuttall's lotus, San Diego barrel cactus, and California boxthorn. Permanent impacts to these species as a result of Alternative 1 would not be considered significant. In particular, impacts to these species would be avoided or minimized through worker environmental protection briefings, markers or fencing, biological monitoring, erosion and sedimentation prevention, and restoration of areas temporarily impacted, as determined necessary by the project biologist. None of the impacts that would occur to nonfederally listed special status plant species from development of Alternative 1 were considered significant.

Several special status plant species would be temporarily directly removed through trenching and backfilling of the water line along the western perimeter fence. These plants include southwestern spiny rush, Nuttall's lotus, Orcutt's pincushion, and coast woolly-heads. These plant species are located along

the western perimeter fence, where the water line would be trenched into southern foredune habitat. Most of these plants (except for the southwestern spiny rush) are annuals that would grow back once the trench for the water line is back filled. Impacts from installation of the water line are anticipated to not be significant.

Indirect Impacts

Populations of several nonfederally listed special status plant species occur within 100 feet of Alternative 1 near the proposed entry control point. These populations include the following species: Nuttall's lotus, Orcutt's pincushion, southwestern spiny rush, and coast woolly-heads. Indirect impacts to these plant species would be avoided through preventing unauthorized trespass into native habitats by worker environmental briefings, signage, biological monitoring, BMPs, and through implementation of measures outlined in Sections 5.7.1.

3.7.10.3.5 Federally Listed Wildlife

There are no anticipated effects to California Least Tern, Least Bell's Vireo, Coastal California Gnatcatcher, and Pacific pocket mouse.

Occupied Light-footed Ridgway's Rail habitat occurs on the east side of SR-75 a few hundred feet east of the Proposed Action footprint. SR-75, along with the adjacent vegetation, and the presence of vehicles, cyclists, and pedestrians, acts as a buffer between Light-footed Ridgway's Rail occupied-habitat and the Proposed Action footprint. These areas are buffered from the Proposed Action footprint by the four-lane divided SR-75 highway. Nesting and foraging areas for the Light-footed Ridgway's Rail are located approximately 900 feet to the south of the proposed entry control point. A new traffic signal would be installed along with a turn lane (located on the northbound side of SR-75 within the existing median). A deceleration lane would widen the southbound side of SR-75 but would be located on the west side of SR-75 away from Light-footed Ridgway's Rail habitat. There will be an increase in ambient noise during construction of the Proposed Action, and an increase in the number of vehicles during and after construction, which may lead to an increase in noise and dust. Alternative 1, with the measures outlined in Section 5.7.1, would not have a significant impact to Light-footed Ridgway's Rail and this species will not be discussed further in the impacts section. In the USFWS Informal Consultation Concurrence Letter, the USFWS ESA determination concluded that the Proposed Action may affect, but is not likely to adversely affect, Light-footed Ridgway's Rail.

Direct Impacts

San Diego Fairy Shrimp

There would be no direct impacts to San Diego fairy shrimp.

Western Snowy Plover

There are no permanent direct impacts to Western Snowy Plover, as no occupied habitat will be removed by construction of the Proposed Action.

There may be temporary direct impacts to Western Snowy Plover through construction of the Proposed Action by staging of construction equipment near occupied habitat. Construction equipment, such as cranes, may provide temporary perch locations for birds that may predate nearby Western Snowy Plovers. Measure B-30 requires staged and stored equipment when not in use to be at least 500 feet away (inside the Proposed Action footprint) from habitat occupied by Western Snowy Plover. Equipment staging and laydown areas would need to be approved in advance by NBC NRO to ensure the areas are far enough away from occupied habitat.

Indirect Impacts

San Diego Fairy Shrimp

Temporary indirect impacts to San Diego fairy shrimp may include increased dust accumulation and runoff, erosion, and sedimentation of basins as a result of construction. However, measures are built into the construction program to reduce generation of dust and any potential sedimentation. Permanent indirect impacts may include increased human use of the area; alteration of the hydrological regime and ability for basins to support inundation; exotic species proliferation; and potential erosion, runoff, and sedimentation into basins supporting these species. By limiting construction to only the Proposed Action footprint, most potential indirect impacts are avoided. The watersheds of vernal pools, plus an additional 50-foot buffer, are located outside the Proposed Action footprint specifically to reduce and avoid potential indirect impacts to vernal pools and San Diego fairy shrimp. However, several measures listed in Section 5.7.2.2 would still be in place to further reduce the above-listed potential indirect impacts. Measures include installation of BMPs, directing storm water away from vernal pool watersheds, and installation of signs and/or fencing to prevent unauthorized trespass. All storm water coming off the Alternative 1 footprint would be captured and directed into storm drains, and would not enter vernal pool watersheds. Alternative 1, with the measures listed in Section 5.7.2.2 (B-23 through B-25), would not have a significant impact to San Diego fairy shrimp. In the USFWS Informal Consultation Concurrence Letter, the USFWS ESA determination concluded that the Proposed Action may affect, but is not likely to adversely affect, San Diego fairy shrimp.

Western Snowy Plover

Temporary indirect impacts to Western Snowy Plover in adjacent habitat could result from construction-related noise and vibration; construction-related night-time lighting, construction-generated fugitive dust accumulation on surrounding vegetation; and erosion, runoff, and sedimentation in plant communities. Permanent indirect impacts to these species that could occur from use of the site include increased human use of the area and the potential for nighttime lighting that may increase predation; exotic species proliferation; increased predation due to increased trash and landscaping that provides refugia for predatory species; and potential erosion and runoff and into occupied habitat.

Alternative 1 would involve the demolition of Building 99, which would be conducted with the use of small explosives and/or diamond saws to initially break up the structure followed by drilling and hammering to further break up the materials. Assuming drilling and blasting activities are conducted continuously for 8 hours, a worst-case 8-hour average demolition noise level of approximately 98 dBA L_{eq} at 50 feet would attenuate to approximately 76 dBA L_{eq} at the western edge of the Proposed Action footprint (approximately 700 feet away), and approximately 74 dBA L_{eq} at the shoreline area directly to the west (approximately 800 feet away). Potential indirect and temporary impacts such as increased noise and

dust caused by demolition of Building 99 could be avoided by performing blasting and other major noise-producing demolition activities outside of the breeding season, or by using temporary noise baffling structures. If construction had to occur during the breeding season, temporary visual and sound barriers would be erected to reduce noise and visual disturbances to nesting Western Snowy Plovers.

Potential operational noise impacts were assessed and are not anticipated to exceed noise levels generated by the nearby surf. Natural beach sound levels range from 55 to 70 dB when surf is not high, to 75 to 90 dB during moderate to higher surf, and 107 to 138 dB for heavy surf (Deane 2000; Tetra Tech 2005; Wilson 1997). Once the Coastal Campus is constructed, one potential operational source of noise would be generated by HVAC systems. Noise levels from HVAC systems vary significantly depending on unit efficiency, size, and location. These noise levels typically range from 45 to 70 dBA L_{eq} at 50 feet (USEPA 1971). At 300 feet from the noise source, the HVAC system noise levels would be significantly less. Therefore, operational noise levels would be less than the sound of the nearby surf and are not expected to impact nesting Western Snowy Plovers.

Permanent and temporary indirect impacts to habitat occupied by Western Snowy Plover would be avoided and minimized through the measures described in Section 5.7.2.3. Generally, the Proposed Action footprint has a 300-foot setback from nesting Western Snowy Plover habitat. This setback would be sufficient to keep noise, dust, runoff, etc. from entering occupied habitat. Generally, measure B-13 and B-28 include no construction-related nighttime lighting unless it is reviewed by the NBC Natural Resource Office (NRO) and is shielded away from native vegetation communities, beaches, and SR-75.

An additional permanent indirect impact would be the potential for avian predators to perch on new buildings, fences, light poles, and other tall structures to prey on nesting and wintering Western Snowy Plover. Measures B-29 and B-30 include the installation of anti-perching devices on light poles, rooftops, and other potential perch locations. Additional building design features may include altering roof pitch designs to minimize perching (particularly for predatory avian species), and limiting the number of new light poles or new perching structures.

There is a potential for increased trash to be generated as a result of construction and operation of Alternative 1. According to USFWS, unmanaged or poorly managed trash can attract potential predators to beach habitat (USFWS 2012b). Improperly stored trash may serve as an attractant to several species such as rats (*Rattus* species), skunks (*Mephitis mephiti*s), raccoons (*Procyon lotor*), Common Ravens (*Corvus corax*), American Crows (*Corvus brachyrhynchos*), and various gull species. Gulls, American Crows, and Common Ravens, which are known Western Snowy Plover predators, are species that are attracted to areas with improperly managed trash (USFWS 2012b). These species may be attracted to the site by increased trash and then predate nearby Western Snowy Plover adults, chicks, or eggs. Additionally proposed landscaped vegetation and trees may provide additional roosting and nesting locations for Common Ravens and American Crows. Measure B-22 would reduce these potential impacts by ensuring that all trash generated from construction and operation of Alternative 1 would be contained within covered, secured trash bins that are inaccessible to wildlife and emptied on a regular basis and prevented from overflowing. All exposed food waste or trash generated from food products (e.g., wrappers, food containers) would be removed from the site on a daily basis to prevent attraction of predators. Additionally, per B-19, NBC NRO will be consulted when designing the locations and types of plants and trees to include in the proposed Coastal Campus. Only native trees would be used in landscaping and there would be not net increase in the number of trees. The trees that would be removed during construction would be replaced at the same ratio with native trees. Landscaped trees would be

placed as far back from beach habitat as possible, and would be located closer to the east side of the Proposed Action to provide a visual obstruction between the Coastal Campus and SR-75. The placement, number, species, and spacing of trees and other vegetation would be coordinated with NBC NRO to reduce the potential for Common Ravens and American Crows from roosting and nesting in the trees.

If construction takes place during the breeding season for areas adjacent to occupied Western Snowy Plover (near the entry control point) measures would be applied to prevent visual, construction-related lighting, and noise impacts to the occupied and critical habitat areas. Fencing to prevent unauthorized trespass would also be constructed.

Potential relocation of the California American Water Company water line from the project site would extend on the back side of the dunes, behind the Western Snowy Plover habitat. It would constitute a temporary impact that can be mitigated by completing construction outside the nesting season. Alternative 1, with the measures discussed above, and listed in Section 5.7.2.3 (B-26 through B-31, would not have a significant impact to Western Snowy Plover.

In the USFWS Informal Consultation Concurrence Letter, the USFWS ESA determination concluded that the Proposed Action may affect, but is not likely to adversely affect, Western Snowy Plover.

3.7.10.3.6 Critical Habitat for the Western Snowy Plover

Direct Impacts

Approximately 0.15 acre of critical habitat occurs within the Proposed Action footprint of Alternative 1. Road improvements, such as the proposed southbound deceleration lane into the Proposed Action would involve the removal of approximately 0.15 acre of critical habitat for the Western Snowy Plover within subunit CA 55F. There is approximately 82.2 acres within subunit CA 55F, and the loss of 0.15 acre would remove approximately 0.19 percent of that subunit. Figure 3.7-9b shows the proposed entry control point with the deceleration lane, location of critical habitat on Silver Strand State Beach, and the locations of Western Snowy Plover nests in the nearby vicinity. To accommodate the increase in vehicle traffic into and out of the Proposed Action, improvements to SR-75 would be necessary. The full details of the number of vehicle trips, size of the road to be expanded, and other traffic-related details are explained in Section 3.9. The critical habitat adjacent to SR-75 that would be removed through road improvements would be considered low-quality habitat for Western Snowy Plovers. The vegetation in this area is dominated by ice plant and is located on the east side (San Diego Bay facing side) of the sand dunes. Western Snowy Plovers tend to nest on the west-facing side of sand dunes and avoid areas with dense ice plant cover.

Potential temporary direct impacts to critical habitat may include an increase in predation (on Western Snowy Plover adults, chicks, and eggs) by predatory birds using construction equipment as temporary perch locations. Additionally, there could be an increase in mammalian predators that are attracted to the Proposed Action during construction and then prey on adjacent Western Snowy Plovers and their nests. Several measures described in Section 5.7.2.3, including restricting construction of the proposed entry control point to outside the nesting season for the Western Snowy Plover, staging construction equipment away from critical habitat, and ensuring that trash is properly secured (with a closed lid and prevented from overflowing) would reduce any impacts to nesting Western Snowy Plovers within critical habitat.

Through the construction and operation of Alternative 1 there would be a direct impact to 0.15 acre of critical habitat for the Western Snowy Plover. However, this loss of critical habitat, which amounts to approximately 0.19 percent of the critical habitat within subunit CA 55F, would not be considered significant. Therefore, consistent with the USFWS Informal Consultation Concurrence Letter, the Proposed Action may affect, but is not likely to adversely affect, critical habitat for the Western Snowy Plover.

Indirect Impacts

The PCE that is most likely to be affected is PCE 4, which defines minimal disturbance from humans, pets, vehicles, or human-attracted predators as critical to the survival and reproduction of Western Snowy Plovers. Although critical habitat is north of the Alternative 1 footprint, increased human and vehicular presence from construction and operation of the Alternative 1 has the potential to affect individual and population growth of Western Snowy Plovers. Currently, there is minimal human and vehicular traffic within SSTC-South in the area closest to critical habitat.

The portion of Alternative 1 that is most likely to impact critical habitat for the Western Snowy Plover is the construction and operation of the proposed entry control point. The proposed entry control point consists of several components that include a southbound right-turn lane into SSTC-South, a new signal at the intersection of Hooper Boulevard and SR-75, and a guard structure and limited parking Figure 3.7-9b shows the location of the entry control point, southbound right-turn lane, and other features that are in proximity to critical habitat for the Western Snowy Plover on Silver Strand State Beach. The southbound right-turn lane would be approximately 485 feet long before vehicles would enter SSTC-South and pass through the entry control point. Construction of the entry control point would occur outside the nesting season for Western Snowy Plovers. Operation and use of the entry control point would not increase ambient noise levels because the speed of the vehicles would be decreasing past critical habitat. The ambient noise levels in the area are elevated due to existing traffic noise on SR-75. These levels were previously estimated at 69 dBA at 100 feet (i.e., 72 dBA at 50 feet) from the centerline of the roadway (U.S. Navy 2011c). The addition of the southbound right-turn lane would move these turning vehicles approximately 12 feet (one lane) closer to adjacent critical habitat. Since these vehicles are slowing to make the turn into the proposed Coastal Campus the noise would be lower than vehicles passing at full speed. The majority of these turns would occur during peak hours when roadway volumes are highest, and the noise increase into the habitat would be negligible.

There would be a berm, wall, fence, or other physical and visual barrier to prevent unauthorized trespass into critical habitat. A chain-link fence with slats could be installed along the west side of the deceleration lane to provide a visual barrier between vehicles that are waiting to enter SSTC-South and Western Snowy Plovers. This visual barrier may reduce the disturbance to Western Snowy Plovers from vehicles and humans waiting to enter SSTC-South.

Several additional measures have been proposed to reduce impacts to critical habitat (listed in Section 5.7.2.4), such as the installation of anti-perching devices to deter avian predators from perching on light structures, walls, etc. Therefore, consistent with the USFWS Informal Consultation Concurrence Letter, the Proposed Action may affect, but is not likely to adversely affect, critical habitat for the Western Snowy Plover.

3.7.10.3.7 Nonfederally Listed Rare Wildlife

Direct Impacts

Potential direct impacts to nonfederally listed rare wildlife as a result of construction of Alternative 1, including globose dune beetle, various bat species, San Diego black-tailed jackrabbit, and migratory bird species covered under the MBTA, could occur through direct removal of habitat. Project design measures and project-incorporated impact avoidance and minimization measures during construction activities (e.g., vegetation clearing to occur outside of the nesting season, minimizing construction activities during the breeding season, and monitoring by a qualified biologist) would minimize potential impacts to migratory bird species covered under the MBTA. Therefore, implementation of Alternative 1 would not have a significant impact to migratory bird species.

Globose Dune Beetle

Since construction would be confined to the Proposed Action footprint, 0.38 acre of southern foredune habitat potentially suitable for the globose dune beetle would be directly impacted. This habitat is not ideal for globose dune beetle as it is small, linear, and surrounded by ice plant. Current management objectives in the 2013 NBC INRMP, designed to remove ice plant and foster native plant communities within southern foredune habitat, would provide additional habitat for globose dune beetle. Therefore, implementation of Alternative 1 would not have a significant impact to critical habitat for the globose dune beetle.

Silvery Legless Lizard

The silvery legless lizard has not been detected within the BSA or Proposed Action footprint during previous focused surveys; however, the BSA contains potentially suitable southern foredune habitat (and the species is historically known from the vicinity). The Proposed Action will permanently directly impact 0.38 acre and temporarily impact 2.79 acres of southern foredune habitat on SSTC-South. While the silvery legless lizard has not been observed within or adjacent to the BSA, the Proposed Action may result in direct loss of a small amount of potential silvery legless lizard habitat. Since the presence of this species could not be confirmed, and only a small portion of potential habitat would be impacted, potential impacts to this species would not be considered significant.

Wandering Skipper

Wandering skipper is known to occupy salt marsh habitat on YMCA Camp Surf and may occur in similar habitat within the BSA. However, the Proposed Action has been designed to avoid impacts to salt marsh vegetation (due to the potential for salt marsh bird's beak). No impacts are anticipated to occur to the wandering skipper as a result of the Proposed Action.

Bats

According to historical data and project surveys in 2013, no bat species breed or roost within the Proposed Action footprint. Therefore, no direct impacts would occur to bat species. However, before demolition of any structure, a biologist would check the structure to ensure no bats are roosting in it (B-35), and impacts would not be considered significant.

San Diego Black-tailed Jackrabbit

The majority of San Diego black-tailed jackrabbits were found outside of the Proposed Action footprint within the southern portion of the BSA. Although a few individuals were observed occasionally wandering through the Proposed Action footprint, urban/developed and disturbed habitat is not considered high-quality habitat for the species. A small amount of Diegan coastal sage scrub and nonnative grassland (1.80 acres total) would be permanently removed. However, this would not be considered a significant impact.

Migratory Birds

Following a year of avian surveys conducted from February 2012 through February 2013 within the BSA, there are no populations of any sensitive bird species (as defined and listed in Table 3.7-8) that would be removed through construction and operation of the Proposed Action. There are no significant wintering, foraging, roosting, or breeding locations of any sensitive bird species within the BSA. The Proposed Action is located primarily within the northern half of the BSA (which is primarily developed and disturbed plant communities and cover types), and the majority of sensitive bird species were recorded in the southern half of the BSA (which is primarily native and undeveloped plant communities and cover types). A few individuals of various sensitive bird species (White-tailed Kite, Northern Harrier, Peregrine Falcon, Short-eared Owl, Loggerhead Shrike, and the full list is provided in Table 3.7-8) were observed using the BSA at various times. These individual birds would still have suitable wintering, foraging, roosting, and migrating habitat in the southern part of the BSA that could be used during project construction and operation. No impacts are expected to occur at the population level for any sensitive bird species. Therefore, the Proposed Action would not have a significant impact on a population of a sensitive bird species.

Indirect Impacts

Potential temporary, indirect impacts to nonfederally listed rare wildlife as a result of construction of Alternative 1, including migratory bird species covered under the MBTA, could include ambient noise, human activity, and dust resulting from construction activities. Construction activities may cause an increase in temporary lighting, structures for avian predators to use, trash that may attract predators, and the potential for increased noise, dust, vibration, and other disturbances. BMPs and measures designed to reduce impacts to Western Snowy Plover (B-26 through B-31) would also reduce potential impacts to migratory birds. Night-time lighting would be shielded away and prevent from entering natural habitats. Trash would be contained in closed receptacles and emptied regularly to prevent an increase in mammalian and avian predatory species. Buildings, light poles, and other structures would have anti-perching, and anti-nesting devices installed on them to reduce the amount of time that predatory avian species may spend around the Proposed Action. Before demolition of buildings occurs, they will be checked for the presence of nesting birds and will not be demolished until any active nests have fledged and the young have left the nest. Project design measures, standard BMPs and measures detailed in Section 5.7.3.2 would avoid and minimize potential impacts. Therefore, implementation of Alternative 1 would not have a significant impact to nonfederally listed rare wildlife, including migratory bird species.

There is the potential for long-term indirect impacts to migratory birds through construction of Alternative 1. Birds may strike windows or be attracted to nighttime lighting during migration. Birds may be attracted to landscaped or watered areas and then strike windows. Birds may strike the 120-foot-tall paraloft while

migrating or flying across the BSA, especially during periods of inclement weather or low visibility. Apart from the paraloft, no buildings would be taller than the existing Bunker 99 and birds would be able to fly over the Proposed Action without hindrance. Alternative 1 would incorporate a bird-friendly design for new buildings and structures. Through building-specific design that incorporates nonreflective glass and reduces ambient nighttime lighting into natural habitats, migratory and resident birds are less likely to collide with buildings. Project design measures, standard BMPs, and measures outlined in Section 5.7.3.2 (B-36 and B-38) would avoid and minimize potential impacts. Therefore, implementation of Alternative 1 would not have a significant impact to birds covered under the MBTA

3.7.10.3.8 Wildlife Corridors

Direct Impacts

Potential impacts to wildlife corridors may occur as a result of construction of Alternative 1. Areas designated for construction of permanent features would be completely developed; thus, any undeveloped areas within these sites available to wildlife for movement would be permanently impacted. The majority of Alternative 1 is ice plant, disturbed, and developed habitat. There is little vegetation to facilitate wildlife movement on the ground; thus, most birds fly over the site. Construction of facilities would not significantly hinder birds flying over the site. Additionally, the beach habitat to the west of the BSA and San Diego Bay to the east would not be impacted, and birds would be able to fly around or over any facilities. Therefore, implementation of Alternative 1 would not have a significant impact to wildlife movement.

Indirect Impacts

Temporary indirect impacts to wildlife corridors within Alternative 1 could occur as a result of increased noise levels, nighttime lighting, dust, and human encroachment on habitat. Temporary indirect impacts to wildlife movement are expected to be minimal.

The area around Alternative 1 is mostly undeveloped and functions as part of the local and regional wildlife corridors available for movement along the Pacific Flyway. Indirect impacts to wildlife corridors could occur as a result of encroachment, as well as increased noise levels, nighttime lighting, dust, and human disturbance in native habitats. Therefore, implementation of Alternative 1, with the measures outlined in Section 5.7, would not have a significant impact to wildlife corridors.

3.7.10.3.9 Mitigation Measures and Impact Avoidance and Minimization Measures

Mitigation Measures

No mitigation measures are proposed.

Impact Avoidance and Minimization Measures

Consultation with USFWS regarding potential impacts to listed species and critical habitat began 28 April 2014 and USFWS issued an Informal Consultation Concurrence Letter (FWS-SDG-14B0200-14I0295) on 12 September 2014 (Appendix E). All measures and provisions of the USFWS informal consultation will

be implemented. See Section 5.7 for a full list of impact avoidance and minimization measures per biological resource.

3.7.10.4 Alternative 2 – SSTC-South Bunker Retention Alternative

Impacts

3.7.10.4.1 Plant Communities

Impacts

Since Alternative 2 has the same footprint as Alternative 1, apart from 4.6 acres of urban/developed habitat that comprises Bunker 99, the direct and indirect impacts to plant communities and cover types would be identical. Plant communities are listed in Section 3.7.10.3.1 above and acreages are given in Table 3.7-12.

3.7.10.4.2 Waters of the U.S.

Impacts

Since Alternative 2 has the same footprint as Alternative 1, the direct and indirect impacts to Waters of the U.S. would be identical. They are listed in Section 3.7.10.3.2 above. Utility easements may potentially impact up to 0.01 acre of non-wetland jurisdictional waters of the U.S. and USACE wetland.

3.7.10.4.3 Federally Listed Plants

Impacts

No direct impacts would occur to federally listed plant species. Any direct or indirect impacts to federally listed plants are identical to those in Alternative 1 and are listed in Section 3.7.10.3.3 above.

3.7.10.4.4 Nonfederally Listed Special Status Plant Species

Impacts

Habitat supporting various nonfederally listed special status plant species occurs within the Alternative 2 footprint. Any impacts to nonfederally listed special status plant species are the same as Alternative 1 and are listed in Section 3.7.10.3.4 above.

3.7.10.4.5 Federally Listed Wildlife

No effects are anticipated to California Least Tern, Least Bell's Vireo, Coastal California Gnatcatcher, and Pacific pocket mouse.

Similar to Section 3.7.10.3.5 for Alternative 1, occupied Light-footed Ridgway's Rail habitat occurs on the east side of SR-75 a few hundred feet east of the Proposed Action footprint. SR-75, along with the adjacent vegetation, and the presence of vehicles, cyclists, and pedestrians, acts as a buffer between

Light-footed Ridgway's Rail occupied-habitat and the Proposed Action footprint. Nesting and foraging areas for the Light-footed Ridgway's Rail are located approximately 900 feet to the south of the proposed entry control point. A new traffic signal would be installed along with a turn lane (located on the northbound side of SR-75 within the existing median). A deceleration lane would widen the southbound side of SR-75 but would be located on the west side of SR-75 away from Light-footed Ridgway's Rail habitat. There will be an increase in ambient noise during construction of the Proposed Action, and an increase in the number of vehicles during and after construction, which may lead to an increase in noise and dust. Alternative 1, with the measures outlined in Section 5.7.1, would not have a significant impact on Light-footed Ridgway's Rail. Consistent with the USFWS Informal Consultation Concurrence Letter, the Proposed Action may affect, but is not likely to adversely affect, the Light-footed Ridgway's Rail.

San Diego Fairy Shrimp

Impacts

Direct and indirect impacts to San Diego fairy shrimp from Alternative 2 are identical to those listed in Section 3.7.10.3.5 above and are not repeated here. Consistent with the USFWS Informal Consultation Concurrence Letter, the Proposed Action may affect, but is not likely to adversely affect, San Diego fairy shrimp.

Western Snowy Plover

Impacts

Impacts to Western Snowy Plovers from Alternative 2 are almost identical to those listed above in Section 3.7.10.3.5 except Building 99 would not be demolished and therefore no additional noise impacts would occur to Western Snowy Plovers. Impacts would not be significant given the measures described in the Alternative 1 discussion. Consistent with the USFWS Informal Consultation Concurrence Letter, the Proposed Action may affect, but is not likely to adversely affect, Western Snowy Plover.

3.7.10.4.6 Critical Habitat for the Western Snowy Plover

Impacts

A direct loss of 0.15 acre of critical habitat for the Western Snowy Plover would result from widening SR-75 to include a deceleration and turn lane into the Proposed Action. Apart from the demolition of Bunker 99, which would not occur under Alternative 2, the Alternative 2 footprint is identical to the Alternative 1 footprint. Therefore the direct and indirect impacts assessed in Section 3.7.10.3.6 above for Alternative 1 are the same, and not repeated in this section. Consistent with the USFWS Informal Consultation Concurrence Letter, the Proposed Action may affect, but is not likely to adversely affect, critical habitat for the Western Snowy Plover.

3.7.10.4.7 Nonfederally Listed Rare Wildlife

Impacts

Potential impacts to nonfederally listed rare wildlife as a result of construction of Alternative 2 are the same as those for Alternative 1. Therefore, they are not repeated here and are listed in Section 3.7.10.3.7 above.

3.7.10.4.8 Wildlife Corridors

Impacts

Potential impacts to wildlife corridors may occur as a result of construction of Alternative 2. Since the Proposed Action footprint is the same for Alternatives 1 and 2, Section 3.7.10.3.8 above describes the potential direct and indirect impacts to wildlife corridors. Therefore, implementation of Alternative 2 would not have a significant impact to wildlife corridors.

3.7.10.4.9 Mitigation Measures and Impact Avoidance and Minimization Measures

Mitigation Measures

No mitigation measures are proposed.

Impact Avoidance and Minimization Measures

Consultation with USFWS regarding potential impacts to listed species and critical habitat began on 28 April 2014 and USFWS issued an Informal Consultation Concurrence Letter (FWS-SDG-14B0200-14I0295) on 12 September 2014 (Appendix E). All measures and provisions of the USFWS informal consultation will be implemented. See Section 5.7 for a full list of impact avoidance and minimization measures per resource.

3.7.10.5 Alternative 3 – Multi-Installation Alternative

Impacts

3.7.10.5.1 Plant Communities

Direct Impacts

Direct impacts to the following vegetation communities would occur through vegetation removal by construction of Alternative 3 as listed in Table 3.7-14.

The acreages of temporary direct impacts associated with the proposed sewer, gas, and water line easements to plant communities and cover types are identical to those in Alternative 1 and are listed in Table 3.7-11 above.

The impacts to plant communities and cover types for coastal and valley freshwater marsh, southern coastal salt marsh, vernal pool, Diegan coastal sage scrub, nonnative grassland, southern foredunes, and disturbed habitat are the same between all three alternatives and are not repeated here. The only difference is the amount of urban/developed habitat in Alternative 3 because Bunker 99 is retained, and there is additional urban/developed habitat on NASNI and NAB Coronado that would be developed.

Table 3.7-14
Potential Permanent Direct Impacts to Plant Communities and Other Cover Types Associated with Alternative 3 (acres)

Plant Communities and Other Cover Types	Alternative 3[1]
Uplands	
Diegan Coastal Sage Scrub	0.35
Nonnative Grassland	0.02
Southern Foredunes	0.38
Other Cover Types	
Disturbed Habitat	114.06
Urban/Developed	60.99
Total	**175.8**

[1] Numbers may not sum exactly due to rounding. Acreages include the Proposed Action footprint on SSTC-South, NASNI, and NAB Coronado. These acreages do not include the utilities easement. The acreage under urban/developed and the total acreage do not include the 4.6 acres of urban/developed habitat from Bunker 99.

Urban/Developed

A total of 56.39 acres of this habitat would be permanently directly removed, while 3.26 acres would be temporarily disturbed by Alternative 3. Two nonfederally listed special status plant species occur within this cover type, several thousand individuals of Nuttall's lotus, and a few Orcutt's pincushion (located within the utility easement), occurs in this habitat in Alternative 3. Of the 56.39 acres to be permanently directly removed, several thousand individuals of Nuttall's lotus are spread throughout Alternative 3. Alternative 3, with the measures outlined in Section 5.7, would not have a significant impact to urban/developed habitat.

Indirect Impacts

Indirect impacts could occur to several plant communities that exist within 100 feet of Alternative 3. Impacts may occur to all plant communities and cover types within the BSA. Temporary indirect impacts may include construction-related fugitive dust, erosion, runoff, and unauthorized trespass. These impacts are anticipated to be minimal due to the implementation of measures described in Section 5.7, but include worker environmental briefings, biological monitoring, non-disturbance buffers in vernal pool areas, and BMPs. BMPs are especially crucial around southern coastal salt marsh due to the presence of salt marsh bird's beak.

Permanent indirect impacts may include altering hydrological regime or the introduction of weedy or invasive plants. Measures described in Section 5.7 include the capture of storm water coming off the Proposed Action and preventing it from entering vernal pool watersheds, and the washing of all equipment to remove weed seeds prior to entering the Proposed Action footprint. No indirect impacts to sensitive plant species would occur at NAB Coronado and NASNI with the implementation of measures in Section 5.7.1.

3.7.10.5.2 Waters of the U.S.

Direct Impacts

No jurisdictional waters of the U.S. or wetlands occur within the main Coastal Campus area of Alternative 3. There are, however, a few areas of jurisdictional waters that would be crossed by utility easements. Both the proposed sewer and natural gas lines cross waters of the U.S. Figure 3.7-2 shows the areas where utility easements cross both non-wetland jurisdictional waters of the U.S. and USACE wetland. These impacts are the same for Alternatives 1 and 2 since the utility easement is the same for all three alternatives. Table 3.7-13 above (under Alternative 1 impacts to Water of the U.S.), details the acreage of waters that may be impacted through installation of the proposed sewer and gas lines. Utility easements may potentially impact up to 0.01 acre of non-wetland jurisdictional waters of the U.S. and USACE wetland.

The proposed sewer and natural gas lines, which would be trenched into Hooper Boulevard (a paved road), cross several small drainages that are considered non-wetland jurisdictional waters of the U.S. and USACE wetland. The construction of Alternative 3 would not have a significant direct impact on jurisdictional waters provided measures such as BMPs, biological monitoring, and worker environmental awareness are implemented. Additionally, since no jurisdictional waters of the U.S. are located within the Alternative 3 footprints on NASNI or NAB Coronado, there would be no direct impacts.

Indirect Impacts

There are jurisdictional waters of the U.S. that have the potential to be indirectly impacted through construction- or operation-related dust, runoff, or sedimentation. Any storm water generated in the Proposed Action footprint, through project construction or operation, would be captured and prevented from flowing into jurisdictional waters. Alternative 3, with the measures outlined in Section 5.7.1 such as BMPs and biological monitoring, would not have a significant impact to waters of the U.S.

Since no jurisdictional waters of the U.S. occur within the Alternative 3 footprints on NASNI or NAB Coronado, there would be no indirect impacts.

3.7.10.5.3 Federally Listed Plants

No direct impacts would occur to federally listed plant species. Any direct or indirect impacts to federally listed plants are identical to those in Alternative 1 and are listed in Section 3.7.10.3.3 above.

Direct Impacts

No direct impacts to federally listed plant species are expected to occur due to the construction and operation of Alternative 3 because no federally listed plant species would occur within the Alternative 3 footprint.

Indirect Impacts

No indirect impacts to federally listed plant species are expected to occur due to the construction and operation of Alternative 3 because no federally listed plant species occur within the footprint of this

Alternative and BMPs would be in place to prevent impacts to salt marsh bird's beak. Consistent with the USFWS Informal Consultation Concurrence Letter, the Proposed Action may affect, but is not likely to adversely affect, salt marsh bird's beak.

3.7.10.5.4 Nonfederally Listed Special Status Plant Species

Habitat supporting various nonfederally listed special status plant species occurs throughout Alternative 3. Special status plant species detected during surveys that may potentially be impacted include Nuttall's lotus, Orcutt's pincushion, San Diego barrel cactus, southwestern spiny rush, California boxthorn and coast woolly-heads. Impacts to these species would be reduced to a level below significant through impact avoidance and minimization measures identified in Section 5.7.1. In particular, impacts to these species would be avoided or minimized through worker environmental protection briefings, markers or fencing, biological monitoring, erosion and sedimentation prevention, and restoration of areas temporarily impacted, as determined necessary by the project biologist. With implementation of these and other measures identified in Section 5.7.1, impacts that would occur to nonfederally listed special status plant species from development of Alternative 3 would not be significant.

Direct Impacts

Nonfederally listed special status plants that are known to occur within the Alternative 3 footprint on SSTC-South and that would be permanently directly impacted by development of Alternative 3 include the following: Nuttall's lotus, San Diego barrel cactus, and California boxthorn. Within the footprint on NASNI, Nuttall's lotus is the only nonfederally listed sensitive plant species that would be impacted. Permanent impacts to these species would not be significant. Measures to protect these plant species in the area outside of the Proposed Action footprint would suffice to reduce impacts to less than significant. Therefore, implementation of Alternative 3 would not have a significant impact to nonfederally listed special status species.

Indirect Impacts

Populations of several nonfederally listed special status plant species occur within 100 feet of Alternative 3 near the proposed entry control point on SSTC-South. These populations include the following species: Nuttall's lotus, Orcutt's pincushion, southwestern spiny rush, and coast woolly-heads. Indirect impacts to these plant species would be avoided through preventing unauthorized trespass into native habitats by worker environmental briefings, signage, biological monitoring, and BMPs, and through implementation of measures outlined in Sections 5.7.1.

3.7.10.5.5 Federally Listed Wildlife

Impacts

Direct and indirect impacts to federally listed species through the construction and operation of the Alternative 3 footprint would be the same as those for Alternative 1 and are described in detail above in Section 3.7.10.3.5. There are no federally listed wildlife species on NASNI or NAB Coronado within or adjacent to the Alternative 3 footprint. The effects would be the same as those listed for Alternative 1. There are no anticipated effects to California Least Tern, Least Bell's Vireo, Coastal California Gnatcatcher, and Pacific pocket mouse. Consistent with the USFWS Informal Consultation Concurrence

Letter, the Proposed Action may affect, but is not likely to adversely affect, San Diego fairy shrimp, Light-footed Ridgway's Rail, and Western Snowy Plover.

3.7.10.5.6 Critical Habitat for the Western Snowy Plover

Impacts

Critical habitat for the Western Snowy Plover does not occur within the Alternative 3 footprint on NASNI or NAB Coronado. There would be impacts to 0.15 acre of critical habitat for the Western Snowy Plover from construction of the proposed entry control gate and the deceleration and turn lanes necessary for ingress and egress into the Proposed Action footprint. The impacts to critical habitat on SSTC-South for Alternative 3 would be the same as for Alternative 1 and are described in Section 3.7.10.3.6.

3.7.10.5.7 Nonfederally Listed Rare Wildlife

Impacts

Alternative 3 indirect impacts are identical to Alternative 1 indirect impacts for areas on SSTC-South, as they occupy the same footprint. For areas in Alternative 3 on NASNI and NAB Coronado, there is no known nonfederally listed rare wildlife occupied habitat within a 500-foot buffer around the project areas that may experience indirect impacts. Therefore, it is assumed that indirect impacts associated with Alternative 3 would be confined to habitats on SSTC-South. A complete description of the impacts to nonfederally listed rare wildlife with the Proposed Action footprint on SSTC-South is located in the Alterative 1 analysis in Section 3.7.10.3.7.

3.7.10.5.8 Wildlife Corridors

Impacts

Potential impacts to wildlife corridors may occur as a result of construction of Alternative 3. The potential impacts on SSTC-South would be the same for Alternative 1 and are described in Section 3.7.10.3.8 above. There are no anticipated impacts to wildlife corridors from construction and operation of the Proposed Action on NASNI and NAB Coronado as the Proposed Action footprint is already disturbed and surrounded by development.

3.7.10.5.9 Mitigation Measures and Impact Avoidance and Minimization Measures

Mitigation Measures

No mitigation measures are proposed.

Impact Avoidance and Minimization Measures

All measures and provisions of the USFWS Informal Consultation Concurrence Letter (FWS-SDG-14B0200-14I0295) determination (12 September 2014, Appendix E) will be implemented. See Section 5.7 for a full list of impact avoidance and minimization measures per resource.

3.7.11 Unavoidable Adverse Environmental Impacts

No unavoidable adverse impacts to biological resources would occur as a result of implementation of any of the alternatives.

3.7.12 Summary of Impacts

A summary of impacts on biological resources for the Proposed Action alternatives is found in Table 3.7-15.

Table 3.7-15
Summary of Impacts

Alternative	Summary of Effects	Impact Avoidance and Minimization Measures
No Action Alternative	No impacts to biological resources.	None
Alternative 1 – SSTC-South Bunker Demolition Alternative (Preferred Alternative)	Alternative 1 would result in permanent direct impacts to 100 percent (166.85 acres) of the plant communities and cover types within the Proposed Action footprint. An additional 4.33 acres would be temporarily impacted through utility easements, of which 0.01 acre is jurisdictional waters. Additionally, there would be a loss of 0.15 acre of critical habitat for the Western Snowy Plover from construction of the proposed entry control point and supporting road improvements. Alternative 1 has the potential to result in significant impacts to biological resources due to a loss of critical habitat for the Western Snowy Plover. Alternative 1 will have no effect on the following species: California Least Tern, Least Bell's Vireo, Coastal California Gnatcatcher, and Pacific pocket mouse. Additionally, there are no anticipated adverse effects to any nonfederally listed rare or sensitive wildlife species or wildlife corridors. Consistent with the USFWS Informal Consultation Concurrence Letter, the Proposed Action may affect, but is not likely to adversely affect, salt marsh bird's beak, San Diego fairy shrimp, Light-footed Ridgway's Rail, Western Snowy Plover, and critical habitat for Western Snowy Plover.	Mitigation Measures: None Impact Avoidance and Minimization Measures: Measures would be implemented per the terms of USFWS Informal Consultation Concurrence Letter (FWS-SDG-14B0200-14I0295) received 12 September 2014. Sections 5.7.1 through 5.7.3

Alternative	Summary of Effects	Impact Avoidance and Minimization Measures
Alternative 2 – SSTC-South Bunker Retention Alternative	Alternative 2 would result in permanent direct impacts to 100 percent (162.25 acres) of the plant communities and cover types within the Proposed Action footprint. An additional 4.33 acres would be temporarily impacted through utility easements, of which 0.01 acre is jurisdictional waters. Additionally, there would be a loss of 0.15 acre of critical habitat for the Western Snowy Plover from construction of the proposed entry control point and supporting road improvements. Alternative 2 has the potential to result in significant impacts to biological resources due to a loss of critical habitat for the Western Snowy Plover. Alternative 2 will have no effect on the following species: California Least Tern, Least Bell's Vireo, Coastal California Gnatcatcher, and Pacific pocket mouse. Additionally, there are no anticipated adverse effects to any nonfederally listed rare or sensitive wildlife species or wildlife corridors. Consistent with the USFWS Informal Consultation Concurrence Letter, the Proposed Action may affect, but is not likely to adversely affect, salt marsh bird's beak, San Diego fairy shrimp, Light-footed Ridgway's Rail, Western Snowy Plover, and critical habitat for Western Snowy Plover.	Mitigation Measures: None Impact Avoidance and Minimization Measures: Measures would be implemented per the terms of USFWS Informal Consultation Concurrence Letter (FWS-SDG-14B0200-14I0295) received 12 September 2014. Sections 5.7.1 through 5.7.3
Alternative 3 – Multi-Installation Alternative	Alternative 3 would result in permanent direct impacts to 100 percent (171.2 acres) of the plant communities and cover types within the Proposed Action footprint. An additional 4.33 acres would be temporarily impacted through utility easements, of which 0.01 acre is jurisdictional waters. Additionally, there would be a loss of 0.15 acre of critical habitat for the Western Snowy Plover from construction of the proposed entry control point and supporting road improvements. Alternative 3 has the potential to result in significant impacts to biological resources due to a loss of critical habitat for the Western	Mitigation Measures: None Impact Avoidance and Minimization Measures: Measures would be implemented per the terms of USFWS Informal Consultation Concurrence Letter (FWS-SDG-14B0200-14I0295) received 12 September 2014. Sections 5.7.1 through 5.7.3

Alternative	Summary of Effects	Impact Avoidance and Minimization Measures
	Snowy Plover. Since no sensitive biological resources occur within or adjacent to the project areas on NASNI or NAB Coronado, there would be no significant impacts to biological resources. Alternative 3 will have no effect on the following species: California Least Tern, Least Bell's Vireo, Coastal California Gnatcatcher, and Pacific pocket mouse. Additionally, there are no anticipated adverse effects to any nonfederally listed rare or sensitive wildlife species or wildlife corridors. Consistent with the USFWS Informal Consultation Concurrence Letter, the Proposed Action may affect, but is not likely to adversely affect, salt marsh bird's beak, San Diego fairy shrimp, Light-footed Ridgway's Rail, Western Snowy Plover, and critical habitat for Western Snowy Plover.	

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3.8 CULTURAL RESOURCES

This section provides brief descriptions of the Area of Potential Effects (APE), regulatory setting, regional prehistory and history, and the cultural resources that occur within the boundaries of the Proposed Action alternatives that may be directly or indirectly affected if the Proposed Action alternatives were to be implemented. Cultural resources consist of sites, Traditional Cultural Properties, buildings, structures, objects, and districts. These may be historic or prehistoric in age, or a combination of both. Historic properties are cultural resources, including those prehistoric in age, that are eligible for or listed on the NRHP. Evaluation criteria for the NRHP are provided in 36 C.F.R. § 60 and include integrity and significance.

3.8.1 Affected Environment

3.8.1.1 Area of Potential Effects

In accordance with Stipulation 6 of the 2003 San Diego Metro Area Programmatic Agreement (Metro Area PA), as extended, the NBC CRM has determined and documented the APE for the Proposed Action alternatives (the Undertaking under NHPA Section 106). Under Stipulation 6, determination of the Undertaking's APE did not require individual consultation with the California State Historic Preservation Officer (SHPO) or other Section 106 consulting parties.

Under the Metro Area PA, and consistent with 36 C.F.R. 800.16(d), the APE is defined as the geographical area or areas within which all Undertaking alternatives may directly or indirectly cause alterations in the character or use of historic properties, within the following considerations:

- Under Metro Area PA Stipulation 6(a) for the Undertaking's alternatives where the project footprint boundary for construction, demolition or renovation of buildings or structures would occur more than 100 m from a listed or eligible historic district or isolated listed or eligible building or structure, the APE is defined as the discrete site of the undertaking and any associated lay down or staging areas.

- Under Metro Area PA Stipulation 6(b) for the Undertaking's alternatives where the project footprint boundary for construction, demolition or renovation of buildings or structures will occur within a listed or eligible historic district, or within 100 m of a listed or eligible historic district or isolated listed or eligible building or structure, the APE is defined to include the historic district or isolated historic property along with the discrete construction site and any associated lay down or staging areas.

- Under Metro Area PA Stipulation 6(b) for the current Undertaking's alternatives where the project footprint boundary involves ground disturbing activities, the APE includes the project footprint boundary, including any associated lay down or staging areas, and a 30-meter buffer around each project footprint boundary containing ground disturbance. If any part of a known archaeological site lies within this 30-meter buffer, the entire documented site will be included in the APE.

3.8.1.2 Regulatory Setting

Regulatory requirements concerning cultural resources on Federal property are contained in Section 106 of the NHPA, 16 U.S.C. §§ 470–470w, Native American Graves Protection and Repatriation Act (NAGPRA), and in NEPA (42 U.S.C. §§ 4321 et seq.). Added direction is provided by DoD instructions (DODINST 4715.3), and DoN instructions (NAVFACINST 11010.45, and Secretary of the Navy Instruction [SECNAVINST] 11010.14A) and directives (DoD Directive 4710.1). The following provides a summary of statutes and regulations pertinent to the NBC Coastal Campus.

National Historic Preservation Act

The NHPA, as amended (16 U.S.C. §§ 470–470w), is the fundamental law concerning the protection of cultural resources on Federal land. In compliance with the NHPA, its amendments, and its implementing regulations, Federal agencies are required to responsibly manage federally owned or controlled cultural resources. Federal agency requirements pertinent to the NBC Coastal Campus are addressed in Sections 106 and 110 of the NHPA and its implementing regulations.

Section 106 of the NHPA requires Federal agencies to take into consideration the potential effects of their undertakings on historic properties, and is generally applicable when an undertaking is the type of activity that has the potential to affect such properties. Section 106 regulations (36 C.F.R. § 800.16[1]) define historic properties as archaeological sites, districts, buildings, structures, or objects that are included or eligible for inclusion on the NRHP (36 C.F.R. § 60). Significance in American history, architecture, archaeology, engineering, and culture is defined as follows:

> …districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association; and (a) that are associated with events that have made a significant contribution to the broad patterns of our history; or (b) that are associated with the lives of persons significant in our past; or (c) that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or (d) that have yielded, or may be likely to yield, information important in prehistory or history (36 C.F.R. § 60.4).

Typically, to be eligible for listing on the NRHP, a property must be at least 50 years old, or have reached 50 years old by the project completion date and retain a high level of integrity of those attributes that contribute to the property's qualifications for the NRHP.

Section 106 and the implementing regulations provide a systematic mechanism for taking into account the effects on NRHP-eligible resources from actions that are federally sponsored, funded, or licensed. Section 106 regulations (36 C.F.R. § 800.8) provide cultural resources compliance for NEPA. Section 106 requires that the SHPO and Native American tribes with historic ties to the area (and possibly other parties) be afforded an opportunity to comment on the Proposed Action. At SSTC-South, NAB Coronado, and NASNI, this requirement is addressed through the installation's existing operating procedures for the environmental review process, per the NBC Integrated Cultural Resources Management Plan (ICRMP) (ASM 2010) and Programmatic Agreement (PA).

National Environmental Policy Act, *as amended*

NEPA (42 U.S.C. §§ 4321–4370c) provides the statutory basis for considering impacts to the cultural environment as a whole. NEPA places the responsibility on the Federal government to "preserve important historic, cultural, and natural aspects of our national heritage, and maintain, whenever possible, an environment [that] supports diversity and a variety of individual choice" (42 U.S.C. § 4331[b][4]). NEPA requires Federal agencies to conduct an interdisciplinary analysis of the environmental consequences of their actions early in the decision-making process. For cultural resources, this analysis considers the effects of agency actions on physical features such as archaeological sites, buildings, and structures, as well as the practice of religious and other traditional lifeways that reflect community heritage. Implementing regulations are found in 40 C.F.R. §§ 1500–1508, 36 C.F.R. § 800.8, and 32 C.F.R. § Part 775.

Native American Graves Protection and Repatriation Act

The NAGPRA of 1990 (25 U.S.C. §§ 3000–3013, 18 U.S.C. § 1170) includes three primary components: (1) procedures for the inadvertent discovery of Native American remains or sacred or funerary objects found on Federal land; (2) requirements for the inventory of Federal curation facilities with the subsequent repatriation of Native American remains and sacred objects to Native American descendants; and (3) provisions for the prosecution of those who knowingly sell, purchase, or transport Native American remains or sacred objects. Guidance for Federal agency implementation of the NAGPRA is found in 43 C.F.R. § 10.

In 2001, subsurface testing on SSTC-South at site CA-SDI-5454/12,270 resulted in an inadvertent discovery of Native American human remains. The Navy initiated a NAGPRA consultation with the affiliated Kumeyaay tribes. The consultation resulted in the development of a Plan of Action (U.S. Navy 2002b) that detailed work protocols and procedures for the treatment of human remains and stipulated Native American consultation during future boundary delineation of the site. Prior to the delineation activities, the Navy initiated consultation with the Kumeyaay to further address their concerns regarding cultural sensitivity as pertains to encountering human remains.

Department of Defense Directive 4710.1

DoD Directive 4710.1 (21 June 1984) describes policy to integrate archaeological and historic preservation requirements with the planning and management of DoD activities. The directive assigns responsibilities and outlines procedures for DoD branches and departments.

Environmental Conservation Program

The DoD's Environmental Conservation Program (DODINST 4715.16, 30 October 2007) implements policy, assigns responsibilities, and prescribes procedures for the integrated management of natural and cultural resources on property under DoD control. The NBC ICRMP was developed in accordance with these guidelines, as well as guidelines being developed by the Navy.

Environmental Readiness Manual

The Navy's Environmental Readiness Manual (OPNAVINST 5090.1D, 10 January 2014) defines requirements, delineates responsibilities, and issues policy for the management of the environment and natural resources for Navy ship and shore activities. Chapter 27, Cultural Resources Management, states policy for the management of historic and archaeological resources under Navy control and establishes Navy responsibilities under pertinent legislation. The manual provides direction on permitting for archaeological investigations and the curation of collected materials. Section 27-4.1(2c) provides for development of ICRMPs.

3.8.1.3 Regional Prehistory and History

Initial Occupation: Paleoindian and Early Coastal Adaptations

Despite decades of research, the early prehistory of coastal Southern California remains poorly understood. The archaeological record does reveal that humans had appeared by about 12,000 years ago on the Channel Islands, where they lived primarily by fishing and collecting and processing shellfish. These early island components are of interest in that they seem to reflect fully developed maritime economies that were distinct from, but roughly contemporaneous with, the Clovis tradition represented throughout much of interior North America. Identified late Pleistocene components are lacking on the mainland coast of Southern California, although several sites have yielded calibrated dates in excess of 9,000 years (Erlandson et al. 2007). Archaeological complexes represented at these early sites include the San Dieguito complex with its worked scrapers and leaf-shaped and stemmed projectile points (Warren 1968; Warren et al. 1993), and the La Jolla complex represented by flaked cobble tools, relatively abundant groundstone, and flexed burials. Although the temporal and cultural relationship between San Dieguito and La Jolla continues to be debated, it is increasingly clear that human populations were well established along the coast of Southern California very early in the Holocene.

The Archaic

During the early Holocene, sea levels continued to rise, as they had been since the last glacial maximum at about 18,000 years ago. By around 8000 years before present (B.P.), however, it appears that rising sea levels had begun to slow to a rate of about 0.25 meter per century. This allowed the formation of a complex mosaic of productive lagoon and estuary habitats at many locations along what is now the San Diego County coastline (Carbone 1991; Masters and Gallegos 1997). These habitats seem to have supported a significant coastal population during the early Archaic, as numerous coastal components have been found that date to this interval. Archaeological remains in these components typically represent the La Jolla complex, and often contain abundant shellfish and fish remains, along with flaked cobble tools, basin metates, manos, discoidals, stone balls, and flexed burials. At the same time, it has been suggested that the contemporaneous Pauma complex of what is now inland San Diego County may represent seasonal movements of early Archaic populations between coastal and inland resource areas (True and Pankey 1985; Warren et al. 1961). If so, a relatively broad seasonal range is implied for the early portion of the Archaic.

Although the basic toolkit represented by the La Jolla complex appears to have remained consistent throughout the Archaic, there are some indications of significant shifts in settlement. Compilations of radiocarbon assays for Batiquitos Lagoon (Gallegos 1985; Warren et al. 1961), for example, provide

evidence for the abandonment of this location between about 3000 and 1500 B.P. This, and evidence from some other locations in San Diego County, led Warren (1964, 1968; Warren et al. 1961) and others (Gallegos 1985; Masters and Gallegos 1997) to postulate a population movement inland and southward in response to siltation and declining productivity of coastal lagoons in the northern portion of current San Diego County. Warren (1964) suggested that San Diego Bay and Mission Bay would have continued to provide productive wetland resource areas at this time.

The Late Prehistoric

Data suggest that Late Prehistoric land use and settlement systems increasingly focused on inland settings, with settlements appearing at a variety of interior and upland locations. Coastal settings continued to be used as well. The pattern of large residential camps with satellite short-term campsites that developed during this period (Byrd and Raab 2007; Rosenthal et al. 2001; True 1966) is seen as an indicator of economic intensification (Byrd and Reddy 1999, 2002) and a shift toward exploitation of smaller, more abundant resources in response to stresses from increased populations and variable climatic conditions. Although more labor intensive to procure, these smaller resources were available in greater numbers and easily accessible for a range of age groups. The small satellite camps are seen as short-term campsites or activity areas focused on specific resources. An example of Late Prehistoric period intensification practices is the numerous Late Prehistoric period shell middens composed of bean clam (*Donax gouldii*) (Byrd 1996, 1998; Gallegos et al. 1998), a species that likely appeared in quantity with the expansion of sandy beaches in the Late Prehistoric period (Masters 1998).

The beginning of the Late Prehistoric is marked by the appearance of small projectile points, ceramics, and cremation burial practices. In southern San Diego County, the Late Prehistoric is represented mainly by the Cuyamaca complex, originally defined by True (1970). True noted an artifact assemblage similar to the San Luis Rey complex represented in northern San Diego County, but distinguished by a steatite industry, a wide range of ceramic vessel types, and a higher incidence of small side-notched points and some flaked stone tool types (scrapers, scraper planes, and choppers). True also attributed a higher incidence of groundstone milling implements to the Cuyamaca complex. Burial practices involved cemetery areas separate from living areas, cremations in ceramic vessels, specialized grave goods, and the use of grave markers (True 1970). In San Diego County, these markers have been represented by large marine shells, including wavy turban (*Astraea undosa*) (Pigniolo 2002a).

Ethnohistory

Europeans first entered the project region in 1769, when the members of the Spanish Portola expedition crossed through the area in route from Mexico to Monterrey (Brown 2001). Dual military and religious contingents established a series of missions in Alta California between San Diego and Monterrey. By that time, the Proposed Action footprint was within the territory of a loosely integrated cultural group historically known as the Kumeyaay, or Southern Diegueño. The Kumeyaay were organized into bands that followed a seasonal round of resource exploitation. Subsistence was plant-based, supplemented by game and shellfish on the coast. Acorns from a variety of oaks (*Quercus* spp.) were a staple. A variety of seeds also formed an important part of the diet, including chia (*Salvia columbarie*), buckwheat (*Eriogonum fasciculatum*), and grasses (*Bromus/Stipa* spp., *Hordeum* sp., *Phalaris* sp. and *Sporobulus* sp.) (Byrd and Raab 2007; Luomala 1978). Trading networks moved coastal resources such as salt and shells inland, and acorns, agave, and mesquite beans toward the coast (Luomala 1978). Major ethnohistoric coastal villages were present at the junction of Otay River with southeast San Diego Bay (*La*

Punta) (Gallegos et al. 1998) and on the Sweetwater River (*Pu-shuyi*) (Kroeber 1925). However, the absence of villages at the strand suggests that this area was used for resource procurement and was marginal to other areas along the coast.

History of the Silver Strand

North Island and Coronado are connected to the mainland by the Silver Strand, a natural strand-line covered by wild grasses. Prior to 1886, the area was undeveloped and used sporadically for cattle grazing, hunting, and whaling. In 1846, 4,185 acres of land that included what are now North Island, Coronado, and the Silver Strand was granted to Pedro Carillo, son of a former *alcalde* of old San Diego (Pourade 1963:73). The area had little water to support cattle grazing, and Carillo held onto the Rancho Peninsula de San Diego for 3 years before selling it for $1,000 to an American captain of a trading ship. The land changed hands several more times until 1885, when it was purchased by Elisha S. Babcock Jr., Hampton L. Story, and Jacob Gruendike for $110,000 (Moyer 1976). Completion of the Santa Fe Railroad to San Diego that same year, and subsequent rate wars between the Santa Fe and Southern Pacific Railroads, made travel and shipping from the east to San Diego relatively affordable, and marked the start of a land development “boom” (Lowell 1985). On 7 April 1886, Babcock, Story, Gruendike, Heber Ingle, and Josephus Collett formed the Coronado Beach Company, with plans for a luxury hotel (the Hotel del Coronado) and a resort community (Pourade 1964).

The next 2 years saw a flurry of development on Coronado. Pipes under San Diego Bay and along the strand brought freshwater to the island. The approximately 20 miles between San Diego and the planned resort community of Coronado were spanned by the Coronado Belt Line, which brought passengers and freight to the island. A parallel road was paved in the 1920s and eventually designated SR-75 (Manley 1994). Construction of Hotel del Coronado began on 9 March 1887, and the hotel opened its doors to the public on 19 February 1888. In 1889, John D. Spreckels bought a one-third share in the Coronado Beach Company and, within a few years, he owned most of Coronado and North Island, as well as numerous businesses and properties in San Diego. In 1887, Babcock and his partners laid out streets for the development of Coronado Heights in the area of what is today SSTC-South. However, with the end of the development boom in 1888, the lots were never sold (MSA 1982). By 1904, four structures had been constructed, including a possible brick yard near the railroad tracks on the east side of the tract. These structures were no longer present by 1920 (Apple and Van Wormer 1995).

Just prior to the end of the development boom, lots south of Coronado Heights were purchased by George Chaffey with the intent to build a summer community. Chaffey named the area Imperial Beach to appeal to the residents of Imperial Valley. Imperial Beach has remained a primarily residential community (Pryde 1992).

San Diego Bay provided one of the better protected natural anchorages along the California coast. However, periodic dredging was needed to maintain an open channel with sufficient depth to accommodate the deep-draft commercial and military vessels of the 20th century. Between 1914 and 1967, much of the North Island, Coronado, and Silver Strand shorelines were enlarged with bay dredge fill (Linder 2003; Shragge 2003).

Military Development at NAB Coronado

Much of NAB Coronado is on land created from bay dredge fill (Shragge 2003). Originally known as Amphibious Training Base, the installation was established in 1943 for training in amphibious warfare tactics. After WWII, the name was changed to NAB Coronado, and its primary mission was changed to providing administrative and logistical support to the amphibious units assigned to the Base (Pourade 1977).

Military Development at NASNI

In 1910, aviation pioneer Glenn H. Curtiss opened a small flying school on North Island. Some of the earliest Army and Navy pilots were trained at Curtis' school. The open terrain and climate provided ideal flying conditions, and during 1912 the Navy and the Army each established aviation camps on the island. The Navy's stay on North Island was initially brief, but the Army Signal Corps developed a permanent school. After the U.S. entered WWI in 1917, Spreckels sold North Island to the U.S. government, and the Navy and the Army each operated an aviation school on the island. The Signal Corps Aviation School was named Rockwell Field, after Second Lieutenant Lewis C. Rockwell, a pilot killed in a 1912 crash. North Island was used jointly by the Army and the Navy until 1939, when the Navy became the sole tenant. In the 1930s, NASNI became the homeport for the Navy's aircraft carriers (Peck 2006).

During WWII, NASNI was a major air base supporting naval operations in the Pacific. Extensive construction between 1940 and 1944 included hangars, concrete runways, a large dock, and warehouses; as well as administrative buildings to support the influx of military personnel. By the end of WWII, NASNI was the largest naval air station on the west coast, although the Base downsized after the war. During the 1950s, the facilities at NASNI were modernized to support new technologies: jet aircraft and guided missiles. Major functions of the base have continued to be aviation training, aircraft repair, and a homeport for carriers (JRP 2000).

Military Development at SSTC-South

With the abandonment of Coronado Heights, the area of SSTC-South remained undeveloped until 1920, when the Navy established Radio Compass Station Imperial Beach to aid ships in navigation. In 1941, an expanded station was designated Navy Radio Direction Finder Station Imperial Beach.

Also in 1941, the military developed a coastal defense system throughout the nation with a local contingent protecting San Diego Harbor, largely centered on Point Loma, to defend against the threat of Japanese invasion. The Army established Fort Emory adjacent to the Navy Radio Direction Finder Station on the Silver Strand as part of a coastal battery defense system. Three batteries were constructed between 1941 and 1944, the first of which was Battery Imperial, consisting of four 155-millimeter (mm) guns on circular concrete slabs. Subsequently, Batteries 134 Gatchell and Grant (now Buildings 99 and 100) and their associated Plotting and Sighting Room (now Building 98) were constructed of poured cement with a protective and camouflaging layer of earth. These batteries were heavily fortified, well hidden, and designed to hold modern defensive guns. The Plotting and Sighting Room served as the central coastal artillery control center for Batteries Grant, 134 Gatchell, and Imperial. Of the three batteries constructed at Fort Emory, only Imperial and Grant were ever fully operational. Due to the decreased threat of Japanese invasion, in 1944, work on Battery 134 Gatchell was discontinued before the guns were installed. Along with the defensive structures built at Fort Emory were amenities needed

for personnel such as housing, recreational facilities, fire houses, and administrative buildings. The Cantonment buildings were also camouflaged, constructed with the appearance of civilian family cottages. In 1944, the Navy discontinued use of all coastal defense batteries (Herbert and Byrd 1997a).

After the war, the facility housed a Navy communications school and became the Navy Radio Receiving Facility Imperial Beach (MSA 1982). In 1961, the Wullenweber Antenna Array was constructed and designed to meet the Navy's Cold-War-era global communications needs. By 1963, most of the buildings and structures had been removed from the installation, with the exception of the batteries, the Plotting and Sighting Room, and the water tanks (Herbert and Byrd 1997a). Use of the antenna was discontinued in the late 1990s (ASM 2010). Since then, the area has served as a training facility for NBC.

3.8.1.4 Identified Cultural Resources

Digital data provided by the South Coastal Information Center on previous cultural resources surveys and known cultural sites on SSTC-South and the adjacent YMCA Camp Surf, NAB Coronado, NASNI, and within a 1-mile-radius of the proposed off-site traffic, access, and utility improvements in the Cities of Imperial Beach and San Diego were reviewed for this EIS. Also consulted were the Historic and Archaeological Resources Protection Plan for Navy Radio Receiving Facility Imperial Beach (Apple et al. 1995; Apple and Van Wormer 1995); the NBC ICRMP (ASM 2010), and selected testing and evaluation reports (Gusick 2014; Gross et al. 1996; JRP 2000; Pigniolo 1997, 2002a, 2002b, 2002c; Pigniolo et al. 2001; Underwood 2008). These sources revealed that 100 percent of the SSTC-South, NAB Coronado, and NASNI installations and YMCA Camp Surf have undergone intensive pedestrian survey for cultural resources, resulting in the identification of several prehistoric and historical archaeological sites, historic buildings and structures, and a non-NRHP-eligible historic landscape. Intensive pedestrian archaeological survey has also been conducted of Silver Strand Beach immediately adjacent to SSTC-South to the north (Woodward and Stammerjohan 1985) and partially within the proposed off-site road widening locations at Palm Avenue (SR-75) and 19th Street, the off-ramp from I-5, and the off-site utility locations (Wahoff 2013a).

Archaeological Resources

Previous investigations by cultural resources firms and Commander, Navy Region Southwest archaeologists have identified 15 archaeological sites within SSTC-South, one on YMCA Camp Surf, none at NAB Coronado or the off-site road widening or utility improvement locations, and three sites at NASNI. None of the archaeological sites at NASNI are within the footprint for Alternative 3. Of the archaeological sites at SSTC-South, 10 (Table 3.8-1) are within the footprint for the Proposed Action alternatives. The majority of the sites are prehistoric (considered for this analysis to be before the Portola expedition of 1769), and consist of lithic and shell scatters. Radiocarbon dates obtained from marine shell recovered from these sites indicate an occupation range from the early Archaic to the Late Prehistoric periods. Two of these sites also contain historic-period components representing WWII (1940–1945) and/or Cold War (1946–1991) eras, and two sites are historic (Table 3.8-1). One of these sites also includes footings for a WWII-era Fort Emory base station. The historic sites are the Coronado and San Diego Railroad and Fort Emory. Fort Emory was recorded in 1995 to include historic batteries, a plotting and sighting room, cement foundations, debris scatters, roads, two water tanks, and a prehistoric component consisting of a core and two flakes (Apple and Lilburn 1995). The historic batteries and the plotting and sighting room were subsequently recorded as the Fort Emory Coastal Battery Historic District (see Section 3.8.1.5) and the archaeological features of Fort Emory are considered to be the WWII-era

foundations and historic debris (ASM Affiliates, Inc. 2010). The site within YMCA Camp Surf is a lithic and shell scatter.

Table 3.8-1
Known Archaeological Sites within NASNI, SSTC-South, YMCA Camp Surf, and Off-site Road Widening and Utilities Improvement Locations

Resource Designation	Location	Description	NRHP Status	Within APE
CA-SDI-60/4637/918	NASNI	Shell midden	Eligible	No
CA-SDI-14,415	NASNI	Prehistoric temporary camp	Eligible	No
CA-SDI-14,261	NASNI	Shell midden	Eligible	No
CA-SDI-57	SSTC-South	Lithic and shell scatter; historic debris scatter	Recommended Not Eligible	Yes
CA-SDI-5,454/12,270	SSTC-South	Multi-locus lithic and shell scatter	Eligible	Yes*
CA-SDI-5,514	SSTC-South	Lithic and shell scatter	Recommended Not Eligible	No
CA-SDI-13,073	SSTC-South	Coronado and San Diego Railroad	Recommended Not Eligible	Yes
CA-SDI-13,964	SSTC-South	Lithic and shell scatter, historic debris, footings from base end station	Recommended Not Eligible	Yes
CA-SDI-13,965H	SSTC-South	Scatter of historic and recent domestic and construction debris	Recommended Not Eligible	Yes
CA-SDI-13,966	SSTC-South	Lithic and shell scatter	Recommended Not Eligible	Yes
CA-SDI-13,968	SSTC-South	Lithic and shell scatter	Recommended Not Eligible	No
CA-SDI-13,969	SSTC-South	Lithic and shell scatter	Recommended Not Eligible	Yes
CA-SDI-13,970	SSTC-South	Lithic and shell scatter	Recommended Not Eligible	No
CA-SDI-13,971	SSTC-South	Shell and lithic scatter	Recommended Not Eligible	No
CA-SDI-13,972	SSTC-South	Lithic and shell scatter	Recommended Not Eligible	Yes
CA-SDI-13,973H	SSTC-South	Historic period debris scatter	Recommended Not Eligible	No
CA-SDI-13,974/H	SSTC-South	Fort Emory	Recommended Not Eligible	Yes
CA-SDI-20,787	SSTC-South	Lithic and shell scatter	Recommended Not Eligible	Yes
CA-SDI-13,967	YMCA Camp Surf	Lithic and shell scatter	Recommended Not Eligible	No

*Potentially within footprint for utilities connections

Of the resources, within SSTC-South Alternatives APE, site CA-SDI-5454/12,270 is eligible for the NRHP (U.S. Navy 2002a). Archaeological eligibility investigations (Underwood 2008; Wahoff 2013b) resulted in a recommendation of not eligible for the NRHP for seven of the sites (CA-SDI-57, CA-SDI-13,073, CA-SDI-13,964, CA-SDI-13,966, CA-SDI-13,969, CA-SDI-13,972, and CA-SDI-20,787). Additionally, the Navy is recommending two previously recorded historic sites (CA-SDI-13,974/H and CA-SDI-13,965H) as not eligible for the NRHP (Shaver 2014). Segments of the Coronado and San Diego Railroad (CA-SDI-13,073) were previously evaluated and recommended not eligible for the NRHP (Herbert and Byrd 1997b; see also Historic Landscapes section below). The Navy will submit these evaluations to SHPO for concurrence with the recommended eligibilities during the pending Section 106 consultation. No NRHP-eligible resources are within YMCA Camp Surf or the Alternative 3 NASNI APE.

3.8.1.5 Historic Structures

The inventories and evaluations previously conducted at NBC have identified no historic buildings or structures on NAB Coronado or at the off-site road and utilities improvement locations, three on NASNI,

and seven at SSTC-South. The three historic resources within NASNI are: Naval Air Station San Diego Historic District, Rockwell Field Historic District, and Hanger 340. However, none of these resources is within the Alternative 3 footprint at NASNI.

The majority of the buildings and structures on what is today SSTC-South were removed by the early 1960s. In 1997, JRP Historical Consulting Services conducted a historic resources evaluation of the 10 WWII-era buildings/structures remaining on the installation (Table 3.8-2). Three of the buildings/structures were recommended not eligible for the NRHP. The seven remaining building/structures were recommended as eligible for the NRHP, including the Wullenweber Antenna Array and the six building/structures recommended as contributors to the discontiguous Fort Emory Coastal Battery Historic District (Herbert and Byrd 1997a, 1997b). An NRHP Registration Form was prepared for the Fort Emory Coastal Battery Historic District (Herbert and Byrd 1997b).

The Fort Emory Coastal Battery Historic District is one of a series of coastal batteries constructed during WWII. Its period of significance is 1942 to 1945. Centered on Point Loma, the coastal batteries were the main defense of San Diego Harbor from attack from the Pacific. The attacks on the western coast of the United States seemed imminent with the anticipation of the war in the Pacific in 1941. This served as the catalyst to the development of heavy-duty batteries capable of withstanding the modern warfare technologies. In 1942, the War Department designated Fort Emory as a subpost to Fort Rosecrans. Prior investigations (Herbert and Byrd 1997a, 1997b) have identified the Fort Emory Coastal Battery Historic District as follows: Building 98 Plotting and Sighting Room; Building 99 Battery 134 Gatchell; Building 100 Battery Grant; Buildings 911 and 912 fuel tank pits associated with Battery Grant; Battery Imperial; and a wooden shed associated with Building 99. With the exception of the wooden shed, all of these buildings/structures are contributors to the historic district (Table 3.8-2).

Table 3.8-2
Extant Historic Structures/Buildings within the Alternatives Footprints

Resource Designation	Location	Description	NRHP Status
Building 98	SSTC-South	Plotting and Sighting Room	Eligible[1]
Building 99	SSTC-South	Battery 134 Gatchell, including a concrete foundation for a demolished base end station tower	Eligible[1]
Building 100	SSTC-South	Battery Grant, including circular concrete firing platforms adjacent to north and south entrances, and a protective earthwork for the northern firing platform	Eligible[1]
Building 911	SSTC-South	Fuel tank pit associated with Building 100; extant are the surface poured-concrete hatch way with steel access panel and the subsurface vault; the tank has been removed	Eligible[1]
Building 912	SSTC-South	Fuel tank pit associated with Building 100; see also Building 911	Eligible[1]
Battery Imperial	SSTC-South	Four circular concrete slabs and four concrete tower piers; slabs originally held 155-millimeter guns on Panama mounts	Eligible[1]
Wullenweber Antenna	SSTC-South	Antenna array (mitigated for demolition)	Eligible

[1] Contributing element to the Fort Emory Coastal Battery Historic District

The district is significant under NRHP Criterion A for its association "with events that have made a significant contribution to the broad pattern of our history" (WWII-era coastal defense). The two development periods of the batteries at Fort Emory were the construction of the main batteries, Baker and 134, 1942–1944; and the construction of Battery Imperial, a temporary set of four 155-mm guns, 1942–1943. The Army's Coastal Artillery's efforts at Fort Emory ended in February 1944 and the Navy used the Fort Emory area as a training station and radio technician school until 1961.

It is also significant under Criterion C in that it presents "distinctive characteristics of a type, period, or method of construction." Similar to other U.S. coastal complexes, the batteries at Fort Emory are a specialized and relatively rare type of military construction. The Army constructed 36 sets of batteries along the U.S. coast, in Newfoundland, and in the Caribbean. These patterns of batteries were among the last of their kind built by the U.S. military. When constructed, these new batteries replaced many smaller weapons and protected a much larger area. These batteries were designed to be safeguarded from advanced enemy weaponry. They are composed of thick layers of steel and reinforced concrete to provide a protective shield from attacks of powerful ship guns and aircrafts. Each battery consisted of smaller batteries, plotting and sighting facilities, and base end stations that were dug into the ground. The coastal artillery used base end stations to configure the distance to a target, and the planning and sighting rooms directed the firing and connected to the batteries and base end stations by telephone.

Metro Area PA Stipulation 7.B provides that "If a property in the Metro AOR not previously evaluated for potential eligibility is determined by CNRSW to be eligible, CNRSW shall treat the property as eligible for Section 106 purposes. Such determination requires no SHPO review." Under this authority, NBC has determined the Fort Emory Coastal Battery Historic District to be eligible for listing in the National Register.

The Wullenweber Antenna Array was discussed but not evaluated in 1997 due to security reasons (Herbert and Byrd 1997a). It was subsequently evaluated and found eligible for the NRHP in 1999. Consultation in compliance with Section 106 was completed in 2010 pertaining to the Navy's undertaking to demolish the antenna. As a result of the adverse effects of the demolition, the Wullenweber Antenna Array would no longer be a historic property. While the antenna remains in place, SHPO and the Navy signed a Memorandum of Agreement (MOA) in 2010 (U.S. Navy 2010d) concluding the process. Stipulations under the MOA include recordation of Wullenweber Antenna Array Control Building 1 in accordance with standards of Historic American Buildings Survey (as modified in the MOA) prior to any adverse effects; preparation of a digital model of the Wullenweber Antenna Array, preservation of Building 1 and a segment of the antenna array, and preparation of a roadside interpretive sign erected near the remaining segment of the antenna array (U.S. Navy 2010d). Conditions of the 2010 MOA apply to the present undertaking.

Historic Landscape

The 1997 evaluation included the former landscape of Coronado Heights, which consists of a remnant street pattern and cypress tree plantings along the streets, and contains a segment of the former Coronado Railroad. In 1942, the Coronado Railroad was relocated to the east side of the Installation. Remnant tracks are visible in the eastern and central portions of the Installation. However, it was found that these segments no longer have integrity to the period of significance of the late 1880s. The Coronado Heights landscape was found to lack integrity and was recommended not eligible for listing in the NRHP

(Herbert and Byrd 1997b). NBC is seeking SHPO concurrence on this recommendation for noneligibility during the pending Section 106 consultation for the Coastal Campus undertaking.

3.8.2 Environmental Consequences

3.8.2.1 Approach to Analysis

Federal laws and regulations have established the requirements for identifying, evaluating, and mitigating impacts on cultural resources. Pertinent provisions of NHPA, Archaeological Resources Protection Act (ARPA), and NAGPRA address management and treatment of cultural resources. Provisions of NHPA are addressed in more detail below. ARPA provides for site protection through penalties for noncompliance with its statutes and provides for authorizing archaeological investigations. NAGPRA contains requirements for repatriation of Native American human remains and associated funerary objects found on Federal lands.

Under NHPA, resource significance is determined on the basis of NRHP criteria (36 C.F.R. Part 60.4) in consultation with SHPO. A project affects a resource's significance when it alters the characteristics of the property that qualify it as significant under NRHP criteria. Effects may include:

- Physical destruction or damage to all or part of the resource;
- Alteration of a property in a way that is inconsistent with the Secretary's Standards for the Treatment of Historic Properties (36 C.F.R. Part 68);
- Introduction of visual, atmospheric, or audible elements that alter the setting and diminish the integrity of the property's significant features;
- Neglect of a resource, resulting in its deterioration or destruction; and
- Any change that could adversely affect the qualities that make the property significant.

Under NHPA, assessing impacts involves identifying activities that could directly or indirectly affect significant resources, identifying known or expected significant resources in the area of potential effects, and determining the level of impacts on the resources. Possible findings include no effect, no adverse effect, or an adverse effect on significant resources (36 C.F.R. Part 800.4-9).

Under NEPA, impacts on cultural resources are explicitly identified as attributes that must be addressed to determine the significance of a project's anticipated environmental effects. The potential for adverse effects on cultural resources is considered in this NEPA assessment. An adverse effect on a historic property, however, does not necessarily equate to a significant impact under NEPA. Under NEPA, a significant impact can be mitigated to less than significant through data recovery or other treatment measures. In assessing impacts on cultural resources under NEPA, 40 C.F.R. Part 1508.27 defines significance in terms of context and intensity. These elements include consideration of the impacts on the community, the importance of a site, the unique characteristics, and the severity of the impact.

Impacts on cultural resources can be either direct or indirect. Direct impacts on archaeological resources usually result from ground disturbance. Architectural resources may be directly impacted by modifications to the respective structure. Indirect impacts on significant cultural resources can involve alterations in its

setting, increased access leading to vandalism, or changes in land status without adequate protection of the resources. Potential impacts to cultural resources relate to current and proposed activities that could affect the prehistoric and historic archaeological sites and historic structures on the SSTC. Cultural resources of concern with the Coastal Campus undertaking APE at SSTC South consist of prehistoric archaeological sites and a historic building district. Prehistoric archaeological sites, two NRHP historic building districts, and an individually eligible historic building are on NASNI as well, but these lie outside the undertaking APE.

3.8.2.2 No Action Alternative

Impacts

Under the No Action Alternative, the Navy would continue to maintain the existing land uses and training facilities currently used at SSTC-South. None of the Proposed Action construction or improvements would occur. Current programmed levels of use (type, tempo, location), including requirements for planned force growth, would continue as is. No impact would occur to cultural resources. NAGPRA consultation under the conditions of the Plan of Action (U.S. Navy 2002b) would continue.

Mitigation Measures/Impact Avoidance and Minimization Measures

No mitigation measures or impact avoidance and minimization measures are proposed.

3.8.2.3 Alternative 1 – SSTC-South Bunker Demolition Alternative (Preferred Alternative)

Impacts

As discussed in Section 2.5.2, the Alternative 1 footprint encompasses the northern and western portions of SSTC-South (Figure 2-3). One of the components of Alternative 1 would be the demolition of Building 99. The demolition would be conducted through the use of small commercial explosives, with drilling and hammering to further break up the materials (see Section 2.5.2)

Archaeological Resources

A total of 10 archaeological resources are within the Alternative 1 APE, of which nine have been recommended not eligible for the NRHP. One archaeological site, CA-SDI-5,454/12,270, has been recommended eligible. Required future upgrades to the existing electrical system at SSTC-South, which is partially within CA-SDI-5,454/12,270, would not require additional ground disturbance within the boundaries of the site. CA-SDI-5,454/12,270 will not be adversely affected. NBC is requesting SHPO concurrence on the sites recommended not eligible for the NRHP during the pending Coastal Campus Section 106 consultation. Accordingly, the one site recommended eligible, CA-SDI-5454/12270, will not be adversely affected, and those evaluated by Underwood (2008) and Wahoff (2013a) as not eligible are not historic properties and cannot be affected under Section 106.

The proposed off-site, ground-disturbing traffic, access, and utilities improvements have the potential to impact cultural resources. Although no cultural resources or historic properties have been identified at these locations, these areas have not been entirely surveyed for cultural resources. Additionally, the proposed utilities improvements are within paved streets with no ground surface visibility, and the access

and ground-disturbing traffic improvements within areas of sand or fill deposits. As discussed in Section 3.8.1.4, there is archaeological evidence of prehistoric use and occupation of the general area. It is possible that currently unknown cultural deposits may exist in intact sediments under the pavements or sand or fill deposits in the vicinity of the proposed off-site improvements. Mechanical excavations in those areas, if conducted outside the current limits of trench or road disturbance, could therefore potentially result in impacts to cultural resources.

Historic Structures

The Fort Emory Coastal Defense Historic District, which is eligible for listing in the NRHP, lies wholly within the Alternative 1 APE. Under Alternative 1, Building 99, a contributor to the historic district, would be demolished. This action would constitute an adverse effect to this historic property.

Mitigation Measures/Impact Avoidance and Minimization Measures

Mitigation Measures

In accordance with 36 C.F.R. 800.6, resolution of the adverse effect to the Fort Emory Coastal Defense Historic District wasr defined during the Section 106 consultation with SHPO, the Advisory Council on Historic Preservation, and other consulting parties through development and execution of an MOA. The MOA was signed on 25 February 2015 (Appendix E). To resolve adverse effects to the historic property, the MOA stipulates recordation of the affected resource and salvage of remaining WWII equipment. The stipulations also specify procedures and protocols for addressing discoveries and unanticipated effects during demolition, as well as resolution of objections, along with amendments or termination of the MOA. Actions stipulated in the MOA for resolving the adverse effect would be required to be completed in advance of the initiation of the undertaking activities creating the adverse effect.

Impact Avoidance and Minimization Measures

Alternative 1 would be developed in compliance with NHPA Section 106 under the NBC PA, as implemented through the NBC ICRMP.
Potential impacts to cultural resources from proposed off-site traffic, access, and utilities improvements would be addressed through the following measures:

- Cultural-1: The Navy would coordinate with California Department of State Parks and Caltrans for cultural resources surveys for the proposed ground-disturbing off-site traffic and access improvements.

- Cultural-2: A Monitoring and Discovery Plan would be prepared and implemented prior to the start of ground-disturbing construction activities for the off-site utilities and traffic improvements and would provide protocols in the event that archaeological material is accidently encountered during construction of the project. If previously unknown resources are identified during construction, the lines of communication and measures outlined in the Monitoring and Discovery Plan would be followed.

- Cultural-3: Cultural resources monitoring would be required during mechanical excavation associated with the off-site utilities, access, and traffic improvements.

- Cultural-4: If human remains are accidentally discovered during the proposed project, work at that location will be suspended and redirected elsewhere. If human remains are found on Navy Federal lands, the Navy would immediately be notified of the discovery and the Navy would initiate consultation in compliance with NAGPRA. If the remains are encountered on non-military Federal lands or on non-Federal lands, the Navy as lead agency and City of Imperial Beach, Caltrans, or State Parks, as appropriate, would immediately be notified of the discovery. The remains would be left in place. Under the provisions of the California Public Resources Code Section 7050.5, the County Coroner will be notified in the event of discovery of human remains. If the remains are either determined to be or there is reason to believe they are Native American, the coroner will notify the Native American Heritage Commission (NAHC) within 24 hours. The disposition of Native American human remains on non-Federal lands is within the jurisdiction of the NAHC. The Navy as lead agency would initiate consultation with the NAHC. As part of the consultation process, the NAHC will notify persons most likely to be descended (MLD) from the remains. No ground-disturbing work will occur in the location of the remains until consultation between the NAHC, MLD, and Navy has been completed, and notification by the Navy that construction activities may resume.

3.8.2.4 Alternative 2 – SSTC-South Bunker Retention Alternative

Impacts

As discussed in Section 2.4.3., the Alternative 2 footprint includes all of the components of Alternative 1 within the same overall boundary (Figure 2-7). Under Alternative 2, Building 99 would be retained in place or preserved through adaptive reuse. On-site water line improvements would be the same as for Alternative 1 and shown in Figure 2-3. Off-site traffic, access, and utility improvements would be the same as for Alternative 1 and shown in Figure 2-5.

Archaeological Resources

The proposed off-site, ground-disturbing traffic, access, and utilities improvements have the potential to impact cultural resources. Although no cultural resources or historic properties have been identified at these locations, these areas have not been entirely surveyed for cultural resources. Additionally, the proposed utilities improvements are within paved streets with no ground surface visibility, and the access and ground-disturbing traffic improvements are within areas of sand or fill deposits. As discussed in Section 3.8.1.4, there is archaeological evidence of prehistoric use and occupation of the general area. It is possible that currently unknown cultural deposits may exist in intact sediments under the pavements or sand or fill deposits in the vicinity of the proposed off-site improvements. Mechanical excavations in those areas, if conducted outside the current limits of trench or road disturbance, could therefore potentially result in impacts to cultural resources.

Historic Structures

The Fort Emory Coastal Defense Historic District, which is eligible for listing in the NRHP, lies wholly within the Alternative 2 APE. Under Alternative 2, Building 99, a contributor to the historic district, would not be demolished. There would be no adverse effect to this historic property under Alternative 2.

Mitigation Measures/Impact Avoidance and Minimization Measures

Mitigation Measures

Mitigation measures would not be required under a finding of no adverse effect.

Impact Avoidance and Minimization Measures

Alternative 2 would be developed in compliance with NHPA Section 106 under the NBC PA, as implemented through the NBC ICRMP.

Potential impacts to cultural resources from proposed off-site utilities, access, and traffic improvements would be addressed through the same measures as for Alternative 1. The protocols for accidental discovery of human remains would be the same as for Alternative 1.

3.8.2.5 Alternative 3 – Multi-Installation Alternative

Impacts

As discussed in Section 2.4.4, Alternative 3 would include all of the components of Alternative 1, and the components would be located on three separate installations: SSTC-South, NAB Coronado, and NASNI (Figure 2-8). Building 99 would be retained in place or preserved through adaptive reuse as is proposed in Alternative 2. On-site water line improvements would be the same as for Alternative 1 and shown in Figure 2-3. Off-site traffic, access, and utility improvements would be the same as for Alternative 1 as shown in Figure 2-5.

SSTC-S

Under Alternative 3, the effects to historic properties at SSTC-S would be the same as described under Alternative 2 (Section 3.8.2.4). Off-site traffic, access, and utility improvements would have the same impacts to cultural resources and effects to historic properties as for Alternative 1.

NAB Coronado

Within NAB Coronado, components include the proposed SEAL Team 17 (P-904), NSWG -11 Headquarters (P-912), and the Residency Center (P-965) (Figure 2-8). No historic properties are within these areas. Therefore, there would be no effects to historic properties on NAB Coronado under Alternative 3.

NASNI

NASNI is situated primarily in an area of recent fill (Shragge 2003). No NRHP-eligible resources are located within the APE of the proposed maintenance and logistics portion of the UAV facility (P-870) at NASNI. There would be no effects to historic properties on NASNI under Alternative 3.

Mitigation Measures/Impact Avoidance and Minimization Measures

Mitigation Measures

Mitigation measures would not be required under a finding of no adverse effect.

Impact Avoidance and Minimization Measures

Alternative 3 would be developed in compliance with NHPA Section 106 under the Metro PA, as implemented through the NBC ICRMP.

Potential impacts to cultural resources from proposed off-site utilities, access, and traffic improvements would be addressed through the same measures as for Alternative 1. The protocols for accidental discovery of human remains would be the same as for Alternative 1.

3.8.3 Unavoidable Adverse Environmental Effects

Unavoidable adverse environmental effects are limited to Alternative 1 and its planned demolition of Building 99, an adverse effect to the Fort Emory Coastal Defense Historic District. Under Section 106, this adverse effect will be resolved through execution of an MOA, but it remains accountable as an adverse effect and, under Alternative 1, is unavoidable

3.8.4 Summary of Effects

A summary of effects of the Proposed Action alternatives is provided in Table 3.8-3.

Table 3.8-3
Summary of Cultural Resources Effects

Alternative	Summary of Effects	Mitigation Measures/ Impact Avoidance and Minimization Measures
No Action Alternative	No effects to cultural resources.	Mitigation Measures: None Impact Avoidance and Minimization Measures: None
Alternative 1 – SSTC-South Bunker Demolition Alternative (Preferred Alternative)	Demolition of Building 99, a contributor to the NRHP-eligible Fort Emory Coastal Defense Historic District would constitute an adverse effect to this historic property. The proposed ground-disturbing off-site traffic, access, and utilities improvements have the potential to impact cultural resources.	Mitigation Measures: In accordance with 36 C.F.R. 800.6, resolution of the adverse effect to the Fort Emory Coastal Defense Historic District was defined during the Section 106 consultation with SHPO, the Advisory Council on Historic Preservation, and other consulting parties through development and execution of an MOA. The MOA was signed on 25 February 2015.

Alternative	Summary of Effects	Mitigation Measures/ Impact Avoidance and Minimization Measures
		Actions stipulated in the MOA for resolving the adverse effect would be required to be completed in advance of the initiation of the undertaking activities creating the adverse effect. <u>Impact Avoidance and Minimization Measures:</u> Alternative 1 would be developed in compliance with NHPA Section 106 under the NBC PA, as implemented through the NBC ICRMP. Potential impacts to cultural resources from proposed ground-disturbing off-site traffic, access, and utilities improvements would be addressed through the following measures: Cultural-1: The Navy would coordinate with State Parks and Caltrans for cultural resources surveys for the proposed ground-disturbing off-site traffic and access improvements. Cultural-2: A Monitoring and Discovery Plan would be prepared and implemented prior to the start of ground-disturbing construction activities. Cultural-3: Cultural resources monitoring would be required during mechanical excavation associated with the off-site traffic, access, and utilities improvements. Cultural-4: The accidental discovery of human remains during mechanical excavation would be addressed in compliance with NAGPRA for remains found on military Federal lands, and through consultation with the NAHC for remains found on nonmilitary Federal lands and non-Federal lands.
Alternative 2 – SSTC-South	The proposed ground-disturbing off-	<u>Mitigation Measures:</u> Mitigation

Alternative	Summary of Effects	Mitigation Measures/ Impact Avoidance and Minimization Measures
Bunker Retention Alternative	site traffic, access, and utilities improvements have the potential to impact cultural resources.	measures would not be required under a finding of no adverse effect. <u>Impact Avoidance and Minimization Measures:</u> Alternative 2 would be developed in compliance with NHPA Section 106 under the NBC PA, as implemented through the NBC ICRMP. Potential impacts to cultural resources from proposed ground-disturbing off-site traffic, access, and utilities improvements would be addressed through the following measures: Cultural-1: The Navy would coordinate with State Parks and Caltrans for cultural resources surveys for the proposed ground-disturbing off-site traffic and access improvements. Cultural-2: A Monitoring and Discovery Plan would be prepared and implemented prior to the start of ground-disturbing construction activities. Cultural-3: Cultural resources monitoring would be required during mechanical excavation associated with the off-site traffic, access, and utilities improvements. Cultural-4: The accidental discovery of human remains during mechanical excavation would be addressed in compliance with NAGPRA for remains found on military Federal lands, and through consultation with the NAHC for remains found on nonmilitary Federal lands and non-Federal lands.

Alternative	Summary of Effects	Mitigation Measures/ Impact Avoidance and Minimization Measures
Alternative 3 – Multi-Installation Alternative	The proposed ground-disturbing off-site traffic, access, and utilities improvements have the potential to impact cultural resources.	Mitigation Measures: Mitigation measures would not be required under a finding of no adverse effect. Impact Avoidance and Minimization Measures: Alternative 3 would be developed in compliance with NHPA Section 106 under the NBC PA, as implemented through the NBC ICRMP. Potential impacts to cultural resources from proposed ground-disturbing off-site traffic, access, and utilities improvements would be addressed through the following measures: Cultural-1: The Navy would coordinate with State Parks and Caltrans for cultural resources surveys for the proposed ground-disturbing off-site traffic and access improvements. Cultural-2: A Monitoring and Discovery Plan would be prepared and implemented prior to the start of ground-disturbing construction activities. Cultural-3: Cultural resources monitoring would be required during mechanical excavation associated with the off-site traffic, access, and utilities improvements. Cultural-4: The accidental discovery of human remains during mechanical excavation would be addressed in compliance with NAGPRA for remains found on military Federal lands, and through consultation with the NAHC for remains found on nonmilitary Federal lands and non-Federal lands.

1
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3.9 TRAFFIC AND CIRCULATION

3.9.1 Affected Environment

3.9.1.1 Region of Influence

The following study intersections (33 total) were selected to define the ROI for analysis of the NBC Coastal Campus based on their locations along key travel ways and proximity to naval installations. Each of the intersections along SR-75 is operated and maintained by the California Department of Transportation (Caltrans) but falls within the local jurisdiction boundaries; each intersects with a local (Coronado, Imperial Beach, or San Diego) street, with two exceptions where two Caltrans facilities intersect:

City of Coronado intersections:

- Glorietta Boulevard and Fourth Street (SR-75)
- Fourth Street (SR-75) and Pomona Avenue
- Orange Avenue (SR-75) and Third Street (SR-75)
- Orange Avenue (SR-75) and Fourth Street (SR-75)
- Silver Strand Boulevard/Orange Avenue (SR-75) and Pomona Avenue
- Silver Strand Boulevard (SR-75) and Avenida De Las Arenas
- Silver Strand Boulevard (SR-75) and Rendova Road
- Silver Strand Boulevard (SR-75) and Tarawa Road
- Strand Way and Guadalcanal Road
- Silver Strand Boulevard (SR-75) and Tulagi Road
- Silver Strand Boulevard (SR-75) and Fiddler's Cove Driveway
- Silver Strand Boulevard (SR-75) and Leyte Road
- Silver Strand Boulevard (SR-75) and Attu Avenue
- Silver Strand Boulevard (SR-75) and Coronado Bay Road
- Southbound Silver Strand Boulevard (SR-75) and Coronado Cays Boulevard
- Northbound Silver Strand Boulevard (SR-75) and Coronado Cays Boulevard
- Silver Strand Boulevard (SR-75) and Hooper Boulevard

City of Imperial Beach intersections:

- Silver Strand Boulevard (SR-75) and Rainbow Drive
- 7th Street and Silver Strand Boulevard (SR-75)
- Silver Strand Boulevard (SR-75) and Delaware Street
- Driveway/Silver Strand Boulevard and Palm Avenue
- 3rd Street and Palm Avenue
- Palm Avenue and Rainbow Drive
- 7th Street and Palm Avenue
- Delaware Street and Palm Avenue
- 9th Street and Palm Avenue (SR-75)
- Florida Street and Palm Avenue (SR-75)
- 13th Street and Palm Avenue (SR-75)
- Silver Strand Boulevard and YMCA Driveway

City of San Diego intersections:

- 16th Street and Palm Avenue (SR-75)
- Saturn Boulevard/19th Street and Palm Avenue (SR-75)

Caltrans intersections:

- Palm Avenue (SR-75) and I-5 Southbound Exit Ramp
- I-5 Northbound Ramps and Palm Avenue (SR-75)

Figure 3.9-1 depicts the study intersections within the ROI.

The key roadway facilities that are included in the ROI and provide immediate access to present and future Navy facilities are listed and described below:

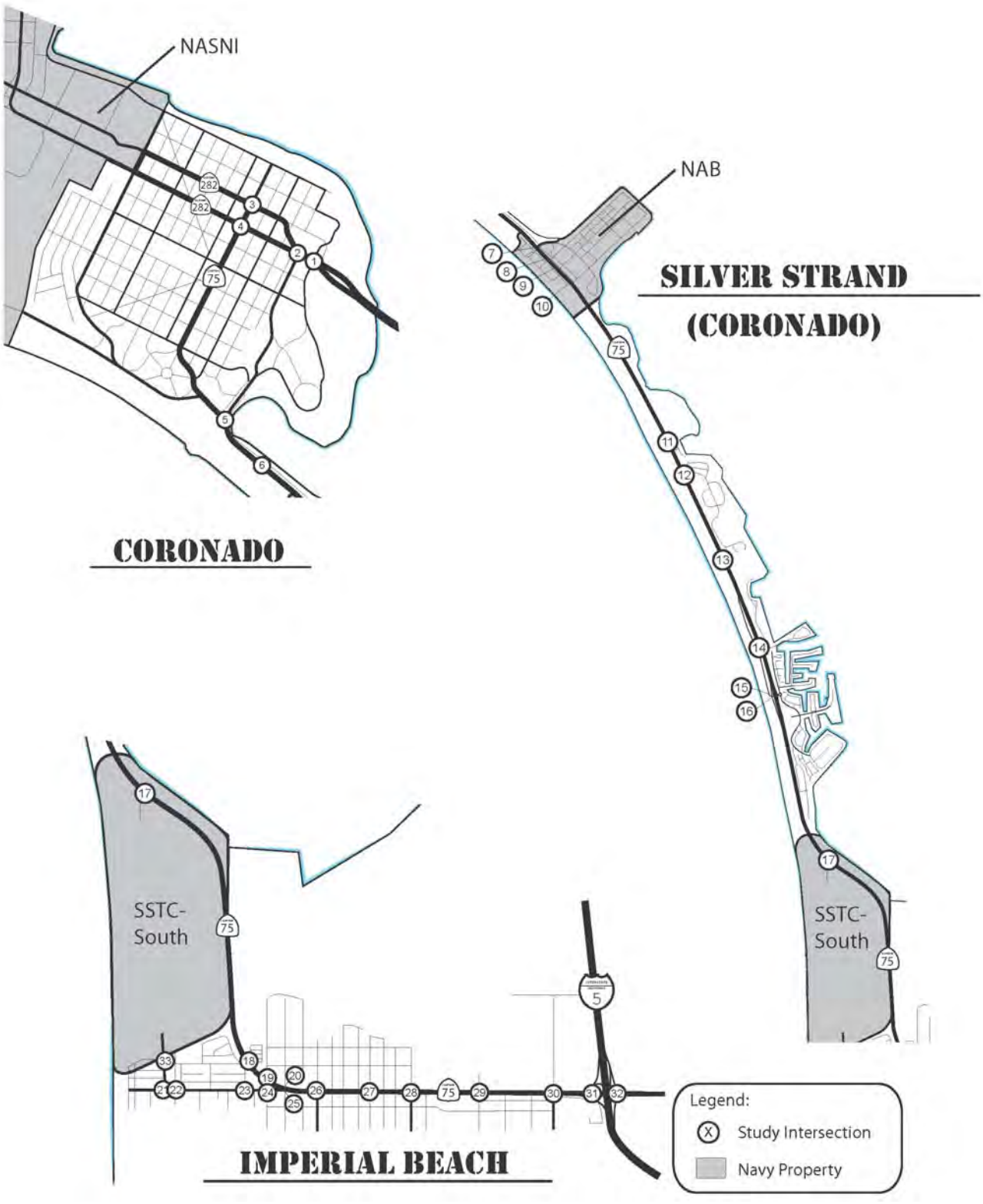
- San Diego-Coronado Bay Bridge (SR-75) is classified and functions as a five-lane freeway. The traffic lanes on the bridge are separated by a movable median, which allows for three westbound traffic lanes in the morning and three eastbound traffic lanes in the afternoon and evening. The approach on each side of the bridge contains three lanes. An out-of-service toll plaza sits on the west side of the bridge and serves as a traffic calming device for vehicles entering Coronado. The San Diego-Coronado Bay Bridge is also known as SR-75. The posted speed limit is 50 miles per hour (mph).

- Third Street (City of Coronado) is classified and functions as a westbound, one-way, three-lane principal arterial between Pomona Avenue and Alameda Boulevard. Third Street is also known as SR-75 between Pomona Avenue and Orange Avenue, and SR-282 between Orange Avenue and Alameda Boulevard. Sidewalks and curbs are located on both sides of the street for the entire length. No parking is allowed on Third Street east of Orange Avenue. An entrance-only NASNI gate is located at the west end of Third Street. This street serves as the main route from the San Diego-Coronado Bay Bridge to NASNI. The posted speed limit is 25 mph.

- Fourth Street (City of Coronado) is classified and functions as an eastbound, one-way, three-lane principal arterial between Alameda Boulevard and Pomona Avenue. Sidewalks, curbs, and parallel-parking spaces are located on both sides of the street for the entire length. Fourth Street is also known as SR-282 between Alameda Boulevard and Orange Avenue, and as SR-75 between Orange Avenue and Pomona Avenue. An exit-only NASNI gate is located at the west end of the street. This street serves as the main route from NASNI to the San Diego-Coronado Bay Bridge. The posted speed limit is 25 mph.

- Orange Avenue (SR-75) (City of Coronado) is classified and functions as a north/south, four-lane minor arterial between First Street and Third Street, and a four-lane principal arterial between Third Street and Pomona Avenue. Orange Avenue is also known as SR-75. The road has a wide, raised landscaped median for the entire length. This street has sidewalks, curbs, and parallel-parking spaces on both sides of the street for the entire length. The posted speed limit is 30 mph between First Street and Ninth Street, and 25 mph between Ninth Street and Pomona Avenue.

- Silver Strand Boulevard (SR-75) (Cities of Coronado, Imperial Beach, and San Diego) is classified and functions as a north/south, four-lane principal arterial from Coronado Street to the



Not to Scale

Figure 3.9-1
Traffic Network Region of Influence

City of Imperial Beach. The roadway is divided by three-beam barriers and primarily has a posted speed limit of 65 mph, but some portions are as low as 35 mph. Silver Strand Boulevard is also known as SR-75 south of Pomona Avenue. Parking is not allowed along Silver Strand Boulevard; however, a paved shoulder lane is available on both sides. There is a separate two-lane bike path to the east of the road that travels the entire length.

- Palm Avenue (Cities of Imperial Beach and San Diego) is a six-lane prime arterial that transitions into a two-lane collector (Class III) in the westward direction. Between 7th Street and I-5, Palm Avenue is a divided six-lane prime arterial with a speed limit of 40 mph and is also known as SR-75. Between 3rd Street and 7th Street (where SR-75 and Palm Avenue split), Palm Avenue is a four-lane collector separated by a two-way left-turn lane. The speed limit in this section is 35 mph. West of 3rd Street, Palm Avenue is a two-lane undivided collector with a posted speed limit of 30 mph.

3.9.1.2 Plans and Policies

The 2010 Highway Capacity Manual (HCM) published by the Transportation Research Board establishes a system whereby transportation facilities are rated for their ability to process traffic volumes. The Transportation Research Board is one of six major divisions of the National Research Council. The program is supported by state transportation departments, Federal agencies including the component administrations of the U.S. Department of Transportation, and other organizations and individuals interested in the development of transportation. The HCM was the first document to quantify the concept of capacity for transportation facilities and focused almost entirely on that subject. The intent of the manual is "to provide a systematic and consistent basis for assessing the capacity and level of service for elements of the surface transportation system and also for systems that involve a series or combination of individual facilities." The terminology "level of service" (LOS) is used to provide a "qualitative" evaluation based on certain "quantitative" calculations, which are related to empirical values. Table 3.9-1 describes the different LOS criteria for transportation facilities.

The LOS for signalized intersections is defined in terms of delay, stated as the average delay per vehicle for the peak 15-minute period within the hour analyzed. In addition to the stop delay, the average control delay includes initial deceleration delay, queue move-up time, and final acceleration time. The LOS for unsignalized intersections is determined by the computed or measured control delay, and is defined for each minor movement. At an all-way-stop control intersection, the delay reported is the average control delay of the intersection. At a one-way- or two-way-stop control intersection, the delay reported represents the worst movement, which is typically the left turn from the minor street approach.

The intersections within the ROI fall within multiple jurisdictions: Caltrans, City of Coronado, City of Imperial Beach, and City of San Diego. LOS for study intersections within all of the jurisdictions were determined based on intersection delay thresholds as stated by the 2010 HCM. The criteria for the various LOS designations as defined in the 2010 HCM are provided in Table 3.9-2.

Table 3.9-1
LOS Criteria

LOS	Description
A	Free flow operations. Free flow speeds prevail. Vehicles are almost completely unimpeded in their ability to maneuver within the traffic stream.
B	Reasonably free flow, and free flow speeds are maintained. The ability to maneuver within the traffic stream is only slightly restricted, and the general level of physical and psychological comfort provided to drivers is still high.
C	Speeds are at or near the free flow speed for the segment. Freedom to maneuver within the traffic stream is noticeably restricted, and lane changes require more care and vigilance on the part of the driver.
D	Speeds begin to decline slightly with increased flows, and density begins to increase somewhat more quickly. Freedom to maneuver within the traffic stream is more noticeably limited, and the driver experiences reduced physical and psychological comfort levels.
E	Operations at capacity. Operations at this level are volatile because there are virtually no usable gaps in the traffic stream. Vehicles are closely spaced, leaving little room to maneuver within the traffic stream. The level of physical and psychological comfort afforded the driver is poor.
F	Breakdown in vehicular flow.

Source: Based on the 2010 Highway Capacity Manual (Transportation Research Board 2010)

Table 3.9-2
LOS Criteria for Intersections

LOS	Signalized Control Delay (sec/veh)[1]	Unsignalized Average Control Delay (sec/veh)[2]	Description
A	≤10.0	≤10.0	Operations with very low delay and most vehicles do not stop.
B	>10.0 and ≤20.0	>10.0 and ≤15.0	Operations with good progression but with some restricted movement.
C	>20.0 and ≤35.0	>15.0 and ≤25.0	Operations where a significant number of vehicles are stopping with some backup and light congestion.
D	>35.0 and ≤55.0	>25.0 and ≤35.0	Operations where congestion is noticeable, longer delays occur, and many vehicles stop. The proportion of vehicles not stopping declines.
E	>55.0 and ≤80.0	>35.0 and ≤50.0	Operations where there is significant delay, extensive queuing, and poor progression.
F	>80.0	>50.0	Operations that are unacceptable to most drivers, when the arrival rates exceed the capacity of the intersection.

sec/veh = seconds per vehicle
[1] 2010 Highway Capacity Manual, Chapter 18, Page 18-6, Exhibit 18-4
[2] 2010 Highway Capacity Manual, Chapter 19, Page 19-2, Exhibit 19-1
Source: Transportation Research Board 2010

Within the Cities of Coronado, Imperial Beach, and San Diego, all intersections are expected to operate at LOS D or better, as shown in the City of Coronado General Plan Circulation Element (City of Coronado 2012), the City of Imperial Beach General Plan/Local Coastal Plan (City of Imperial Beach 2010), and the City of San Diego Significance Determination Thresholds (City of San Diego 2007).

SR-75 is a Caltrans-owned facility. Caltrans "endeavors to maintain a target LOS at the transition between LOS C and LOS D on its facilities, but recognizes this may not always be feasible." Since each of the three local jurisdictions within the study area has LOS D as its minimum acceptable operations, intersections along SR-75 would also use LOS D as minimum acceptable operations.

The City of Coronado classifies its roadways into one of the following categories based on the City of Coronado's General Plan Circulation Element (July 2012), determined based on the importance and purpose of the traffic movements and volumes on a particular street:

- Major Arterial
- Minor Arterial
- Collector Street
- Local Street

The City of Imperial Beach classifies its roadways into one of the following categories based on its General Plan/LCP (2010):

- Six-Lane Prime Arterial
- Four-Lane Major Street
- Four-Lane Collector
- Three-Lane Collector
- Two-Lane Collector
- Residential Street

The City of San Diego classifies its roadways into one of the following categories and provides LOS thresholds for each classification based on the City of San Diego General Plan (City of San Diego 2008):

- Arterial
- Major Street
- Collector Street
- Local Street

3.9.2 Environmental Consequences

3.9.2.1 Approach to Analysis

Traffic impacts were evaluated based on the addition of Proposed Action traffic to the roadway network. The No Action Alternative, Alternative 1 (Preferred Alternative), Alternative 2, and Alternative 3 are each included in this analysis. Year 2024 was selected for evaluation to represent a condition soon after full development of the Proposed Action would be in place and operational. Year 2040 was also selected for

evaluation to represent conditions with build-out of the community, equal to about 30 years after counts were obtained.

- *No Action Alternative:* Under no action conditions, no construction would occur and no new traffic would be assigned to the network. The roadway network would be the same as existing conditions or the future forecast baseline conditions assumed for years 2024 and 2040, which include general background growth.
- *Alternative 1 – SSTC-South Bunker Demolition Alternative:* Under this analysis, traffic associated with the completed construction of the Proposed Action alternative was evaluated.
- *Alternative 2 – SSTC-South Bunker Retention Alternative:* Under this analysis, traffic associated with the completed construction of the Proposed Action alternative was evaluated.
- *Alternative 3 – Multi-Installation Alternative:* Under this analysis, traffic associated with the completed construction of the Proposed Action alternative was evaluated.

Traditional roadway segment analysis uses theoretical capacities for roadways depending on the classification and does not take into account grades of roadway, design features, number of traffic signals along the roadway, or other factors that influence operations. Furthermore, these capacities assume a traditional distribution of traffic over the day, including a typical 1-hour morning and afternoon peak hour. Traffic patterns in Coronado are unique in that peak hours are spread over a longer time period because of the Navy's staggered work times and because of heavy tourism traffic that occurs outside of peak hours. Traffic patterns in Imperial Beach are also unique. Peak periods are lengthened by military traffic arriving and departing before and after the typical commute times, and a mix of military, commercial, school, and residential traffic make for fairly consistent volumes throughout the day. Thus, rather than looking at theoretical analysis of roadway segments using an average daily traffic (ADT) count and a defined classification, the respective segment's functionality can be determined by looking at the operations of the upstream and downstream intersections during the peak periods. Therefore, roadway segment analysis was not conducted as part of this study as intersection operations govern the traffic flow along the roadways in this area. If the intersections at both ends of a roadway segment operate effectively, it can be assumed that the segment of roadway has adequate capacity. Conversely, if the intersections at one or both ends of a roadway segment operate poorly, it can be assumed that the segment experiences volumes above its capacity. Roadway segment volumes for all scenarios are provided in the technical study contained in Appendix D(2) for reference and used for traffic volume forecasting purposes only.

3.9.2.1.1 Proposed Action Impact Thresholds

To determine the Proposed Action's impacts, San Diego Traffic Engineering Council/Institute of Transportation Engineers (SANTEC/ITE) guidelines (SANTEC/ITE, 2000) were used at all locations. SANTEC/ITE guidelines were developed to promote "cooperation among the Cities, Caltrans, and the County of San Diego to create a region-wide standard for determining traffic impacts in environmental reports." These guidelines provide acceptable threshold standards to determine the significance of Proposed Action impacts to intersections and arterial segments. At intersections, the measurement of effectiveness is based on allowable increases in delay. At intersections that are expected to operate at LOS E or F, the allowable increase in delay is 2 seconds. At intersections that are expected to operate at LOS D or better, any increase in delay is allowable as long as the intersection operations remain at LOS

D or better with addition of Proposed Action traffic. If vehicle trips attributed to a Proposed Action cause the delay at an intersection to increase by more than the allowable threshold, this would be considered a significant Proposed Action traffic impact that requires mitigation.

Table 3.9-3 shows the criteria for determining levels of significance at intersections using SANTEC/ITE guidelines.

Table 3.9-3
Significance Criteria

Facility	Measurement of Effectiveness	Significance Threshold[1]
Intersection	Seconds of delay	>2.0 seconds at LOS E or F

[1] Significance threshold applies only when the intersection operates at LOS E or F. Otherwise, an impact occurs if an intersection operating at LOS D or better without Proposed Action traffic operates at LOS E or F with the addition of Proposed Action traffic.

3.9.2.1.2 Trip Generation

The trip generation step in transportation modeling relates the number of trips being produced from a zone or site by time period to the land use and demographic characteristics found at that location. The Proposed Action's trip generation was calculated based on the number of personnel relocating to use the new facilities upon completion (see Tables 3.9-9 and 3.9-10). A trip rate of 2.5 daily trips per person was used, consistent with the Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region prepared by the San Diego Association of Governments (SANDAG) in 2002 (SANDAG 2002). Peak-hour trip rates were obtained from the same source. These rates published by SANDAG take into account some carpooling and transit activities. The rates are based on collected data and are a result of trip generation studies made by the City of San Diego, SANDAG, ITE, and other qualified sources.

3.9.2.1.3 Trip Distribution and Assignment

The trip distribution step in modeling connects the trips originating in the study zone or site with where these trips are destined to go. Similarly, trip distribution connects trips destined for the study zone or site with the origin it came from. This is usually performed by assigning a percentage of trips to available routes to/from the study zone or site. For the Proposed Action, trip distribution assumptions were made based on traffic count data, SANDAG's Series 12 model, and previous studies in the area. Separate trip distributions were created for NAB Coronado, SSTC-South, and NASNI. Trip generation results were applied to the network using the trip distributions prepared for each installation separately and then were combined to provide the total trip assignment for the respective alternative. Figure 3.9-2 shows the assumed trip distribution for NAB Coronado. Figure 3.9-3 shows the assumed trip distribution for SSTC-South. Figure 3.9-4 shows the assumed trip distribution for NASNI.

The trip assignment step in modeling combines the trip generation values with the trip distribution patterns to estimate traffic trips along paths in the roadway network.

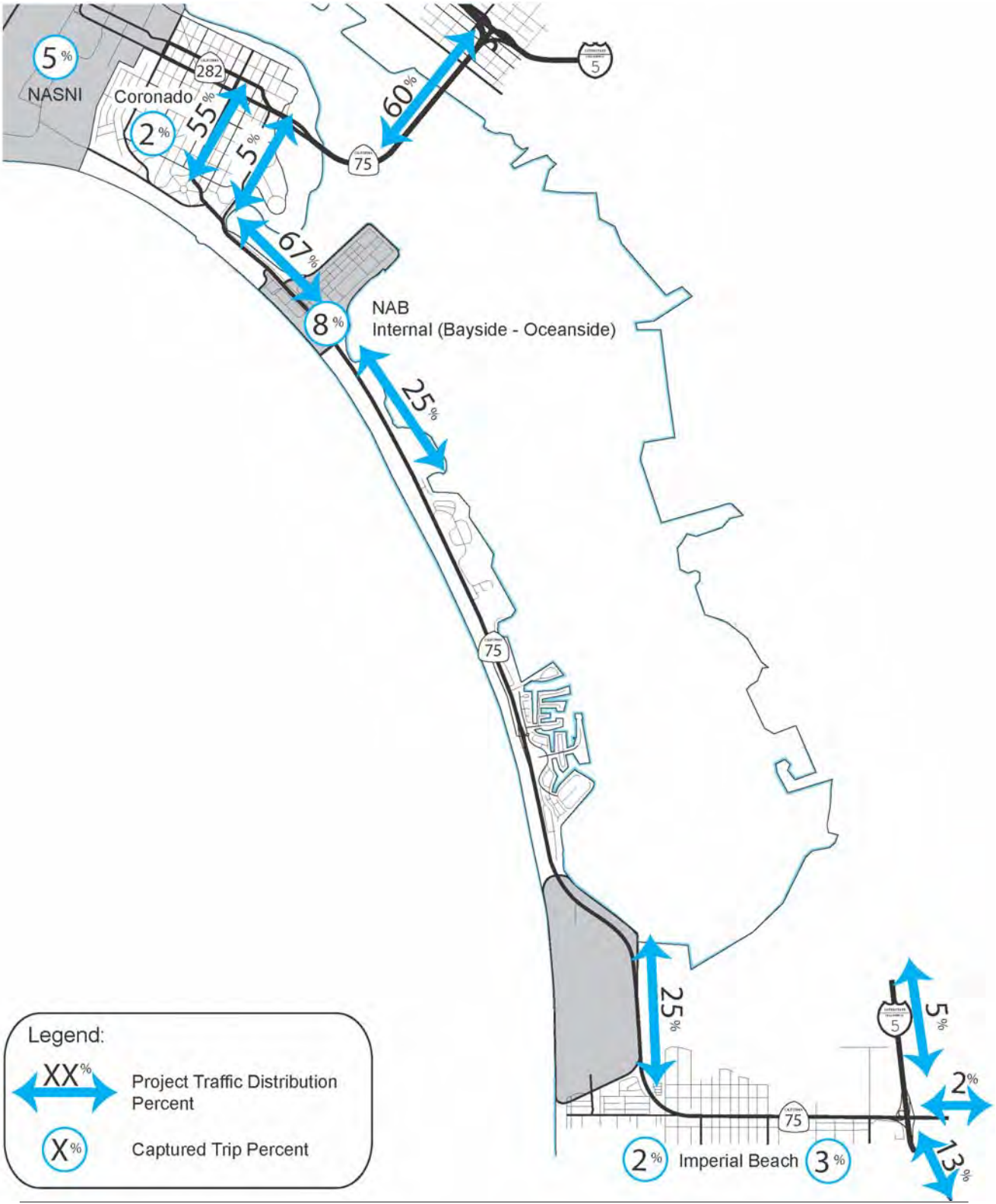


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Figure 3.9-2
Trip Distribution for NAB Coronado

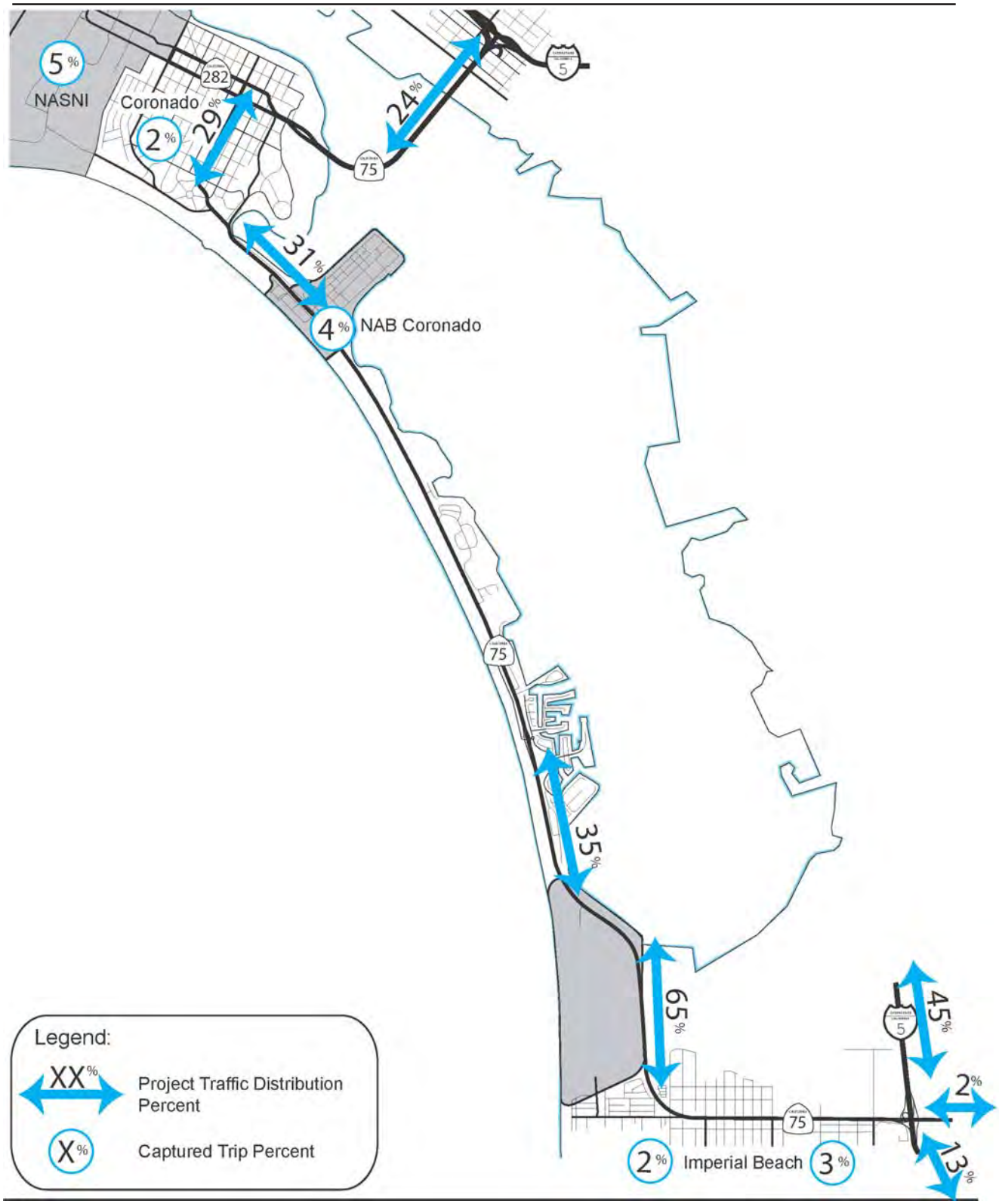

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Figure 3.9-3
Trip Distribution for SSTC-South

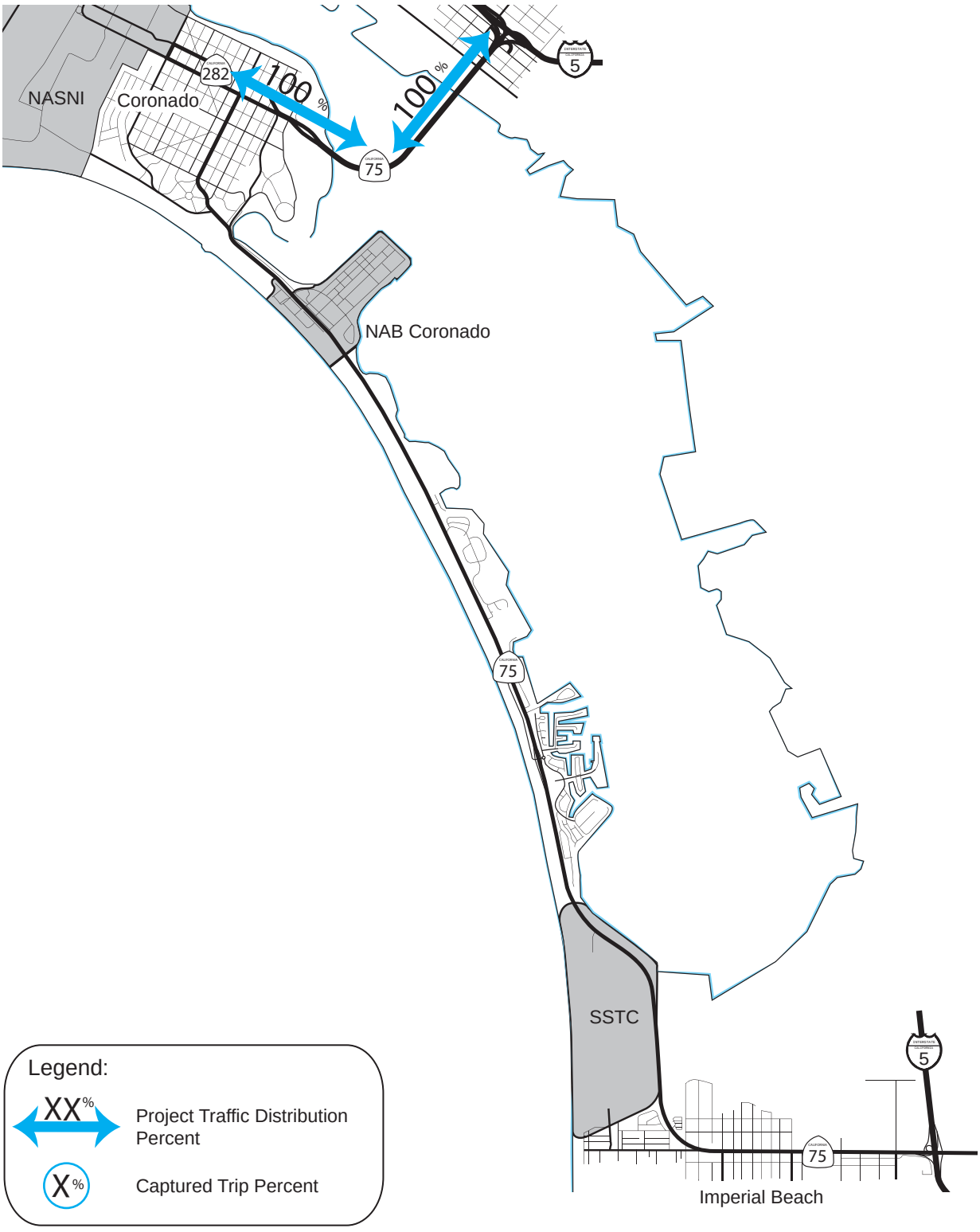

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Figure 3.9-4
Trip Distribution for NASNI

3.9.2.1.4 Varying CVN Levels

Traffic patterns in the ROI also fluctuate when different numbers of aircraft carriers (CVN[4]) are in port. The methodology for forecasting CVN-related traffic levels was extracted from the Home Port Facilities for three Nimitz-Class Aircraft Carriers study and is applicable in this study for scenarios analyzed where multiple CVNs are in port.

The daily trip generation for a CVN was primarily based on trip rates published in the 1999 Final EIS (U.S. Navy 1999) and subsequent studies conducted in 2002. The 2002 study identified traffic conditions at the NASNI gates with one, two, and three carriers in port. The difference in ADT between one and three carriers (47,158 ADT – 37,548 ADT) resulted in 9,610 ADT. This value was divided by 2 to determine the average ADT per carrier, which resulted in 4,805 ADT per carrier. With a population of 3,217 personnel for each CVN, this resulted in a trip rate of 1.49 trips per person. The 1999 Final EIS had used a similar, but slightly lower rate of 1.47 trips per person. The 2002 observed rate was used as it more accurately reflects conditions at NASNI. The peak-hour traffic for a carrier was estimated on the likely arrival and departure of workers assigned to a CVN.

In general, the 3,217 personnel corresponding to a 100 percent manning level for a CVN was converted to a total of 1,392 vehicle trips during the peak periods. Table 3.9-4 summarizes the trip generation for the various CVNs in port. The benefit of staggered work hours during peak periods with three CVNs in port is shown by comparing the AM and PM peak-hour volumes with and without staggered work hours for the three-CVN scenario.

Table 3.9-4
Trip Generation Summary

Land Use	Units	Trip Rate[1]	Daily Trips	AM Peak Hour[2]	PM Peak Hour[2]
1 CVN	3,217 Personnel	1.49/Personnel	4,793	1,392 1,265 in, 127 out	1,392 127 in, 1,265 out
2 CVNs	6,434 Personnel	1.49/Personnel	9,586	2,784 2,530 in, 254 out	2,784 254 in, 2,530 out
3 CVNs	9,651 Personnel	1.49/Personnel	14,379	4,176 3,795 in, 381 out	4,176 381 in, 3,795 out
3 CVNs (staggered work hours)	9,651 Personnel	1.49/Personnel	14,379	1,679 1,526 in, 153 out	1,727 157 in, 1,570 out

[1] Trip rate primarily based on updated data contained in the September 4, 2002 Memorandum for the Record (U.S. Navy 2002c).

[2] 29 percent of the daily trips occurred during both peak periods with a 90/10 split during the AM peak hour and a 10/90 split during the PM peak hour.

The number of CVNs in port at NASNI has a direct relation to traffic volumes within the ROI. Thus, scenarios that reflect the traffic volumes and operations with one and two CVNs in port are presented. Analysis was not performed for scenarios with three CVNs in port as intersection volumes would be equal to or less than when two CVNs are in port due to the requirement to stagger work hours. Volumes with three CVNs in port are provided in the technical study located in Appendix D(2).

[4] CVN is the Navy ship type designation for Aircraft Carrier (CV), Nuclear powered (N).

3.9.2.2 Existing Conditions

Existing conditions scenarios that reflect the traffic volumes and operations with one and two CVNs in port are presented in this section.

3.9.2.2.1 Existing with 1 CVN Conditions

Roadway Network

The existing intersection geometrics are shown in Figures 3.9-5a, b, and c.

Traffic Volumes

Existing turning movement volumes at the 33 intersections were counted in 2012. Traffic counts were not all performed on the same day and the number of CVNs in port at NASNI varied with one or zero on the different days that counts were performed. To account for differences in the number of CVNs in port during the day of the counts, adjustments were made to the count data acquired when zero CVNs were in port. Trips were assigned to the intersection using methodology from the Home Port Facilities for three Nimitz-Class Aircraft Carriers study (U.S. Navy 2008b). For the purposes of this subsection, existing conditions represents traffic volumes when one CVN is in port. Existing intersection volumes are shown in Figures 3.9-6a, b, and c.

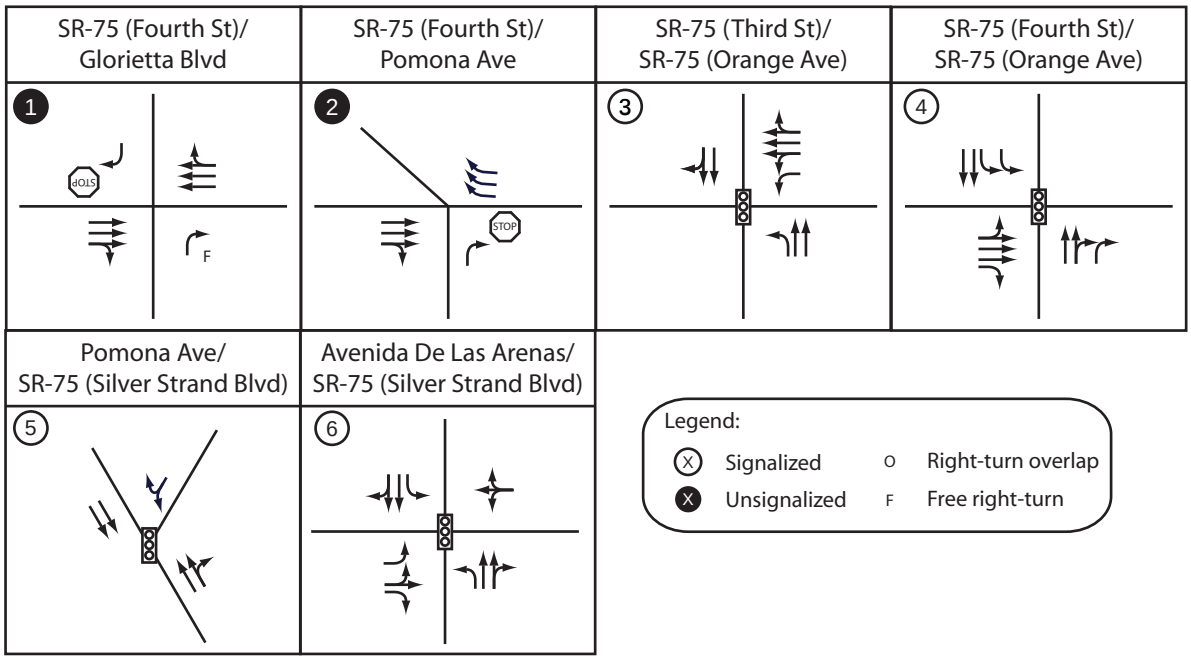
Roadway segment traffic volumes for existing conditions were obtained using 2008 values from SANDAG's Series 12 Transportation Forecast Information Center. Based on the volumes shown in the model, it is assumed that one CVN is in port for these data. Existing roadway segment volumes are used for traffic volume forecasting purposes only.

Intersection Analysis

An analysis of existing conditions at each of the study intersections indicates that all intersections operate at LOS D or better during both peak periods, except at the following locations:

- #1 Glorietta Blvd and Fourth St (SR-75) — *AM peak (LOS E)*
- #2 Fourth St (SR-75) and Pomona Ave — *PM peak (LOS F)*
- #4 Orange Ave (SR-75) and Fourth St (SR-75) — *PM peak (LOS E)*
- #19 7th St and Silver Strand Blvd (SR-75) — *AM & PM peaks (LOS F/E)*
- #30 Saturn Blvd/19th St and Palm Ave (SR-75) — *PM peak (LOS F)*

The results of the intersection analysis are shown in Table 3.9-5.



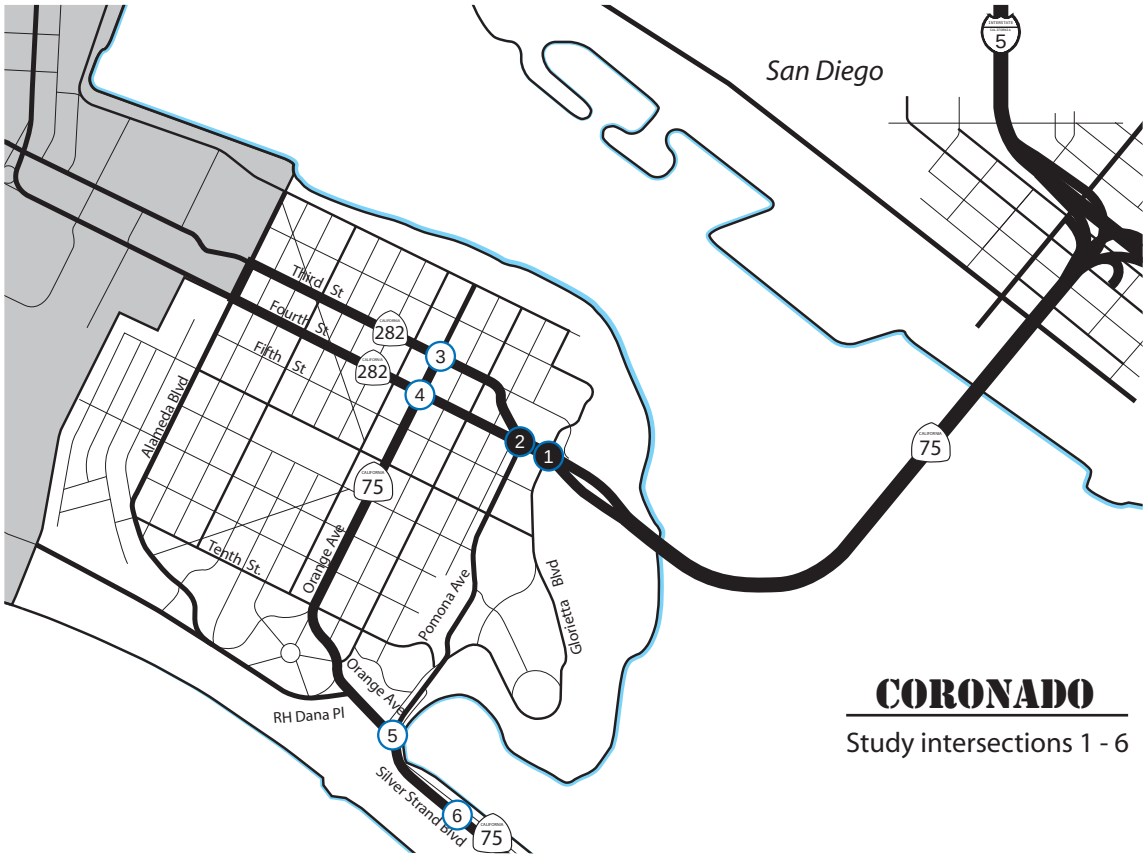


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Figure 3.9-5a
Existing Intersection Geometrics - Coronado

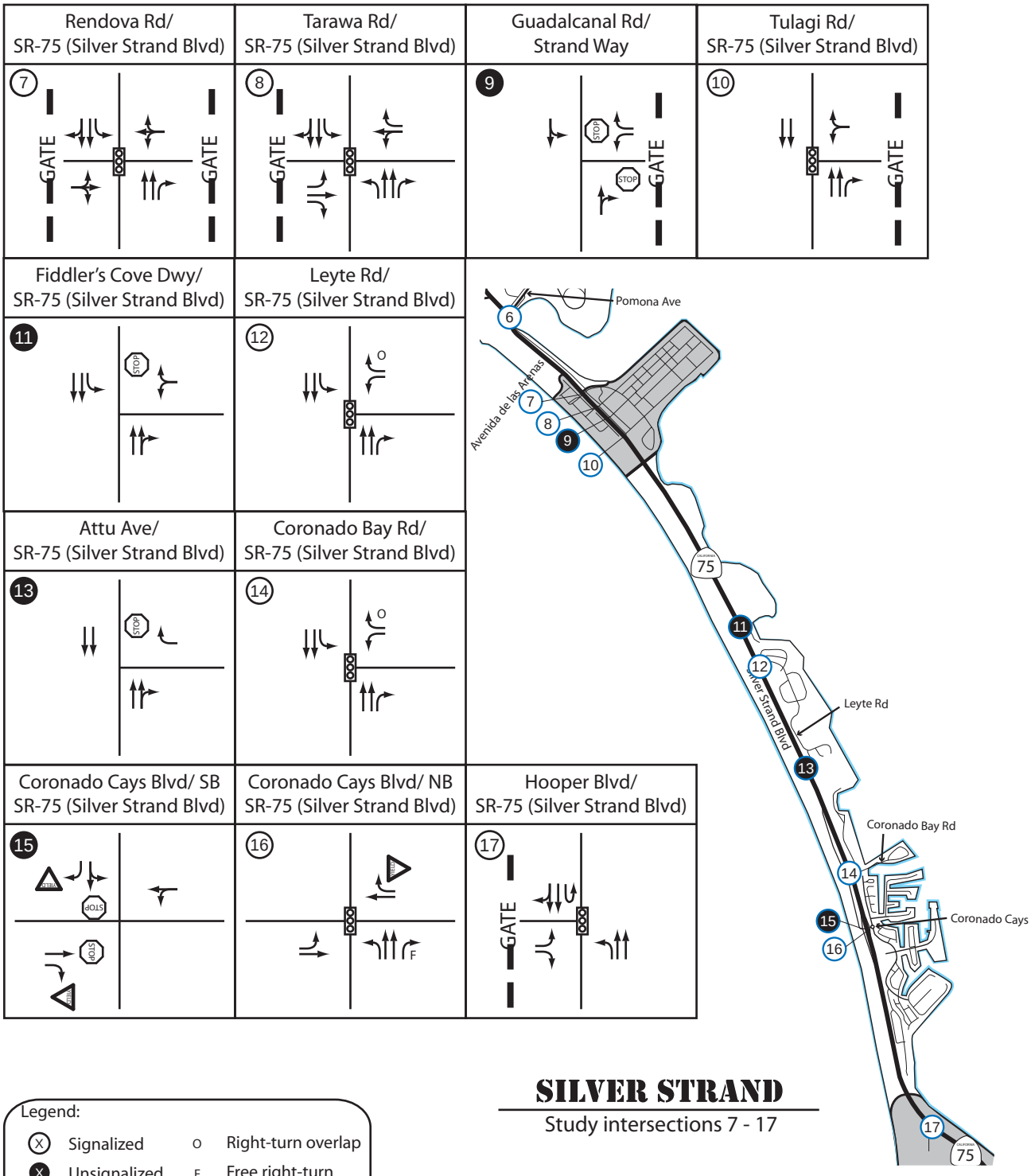

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Figure 3.9-5b
Existing Intersection Geometrics - Silver Strand

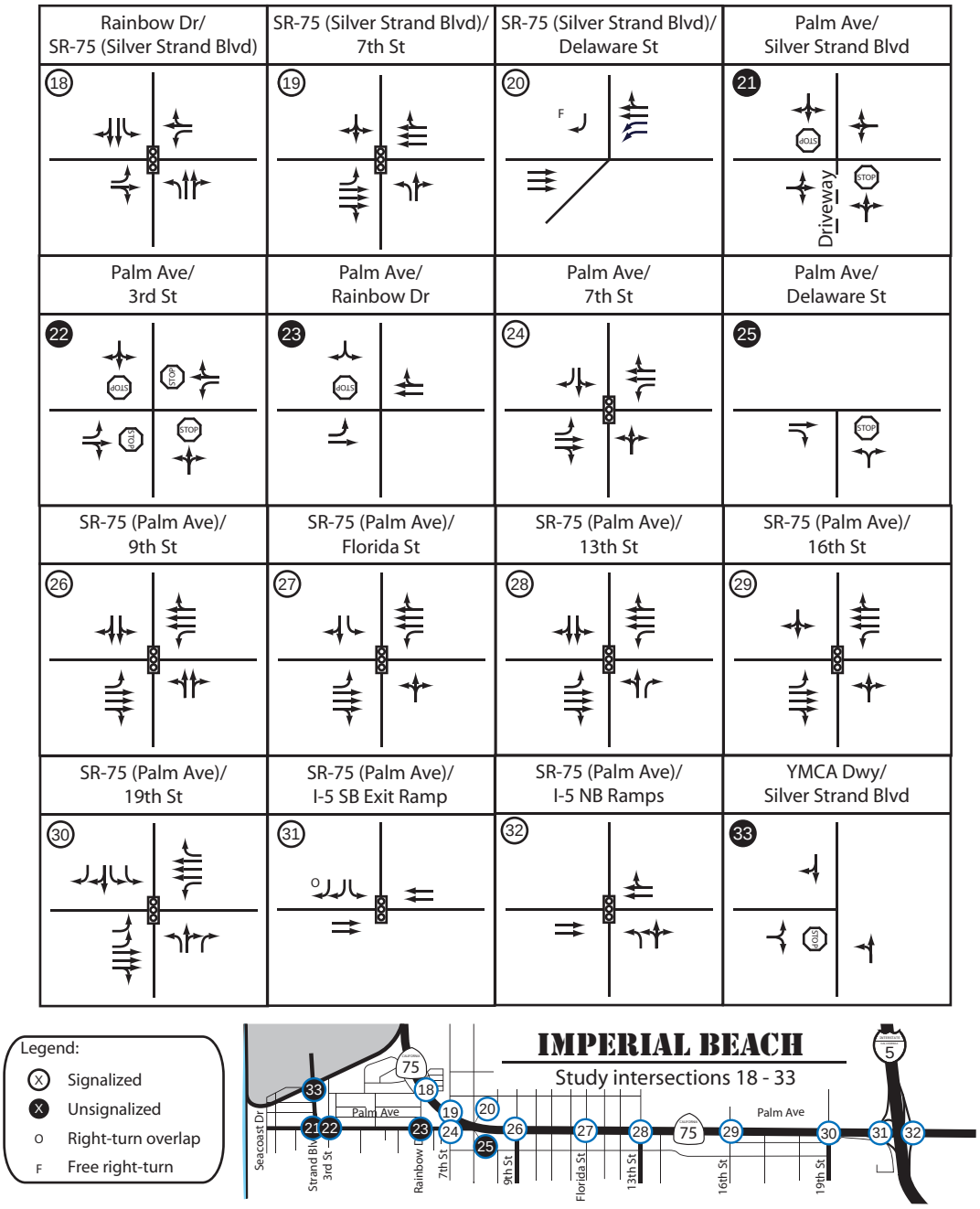

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Figure 3.9-5c
Existing Intersection Geometrics - Imperial Beach

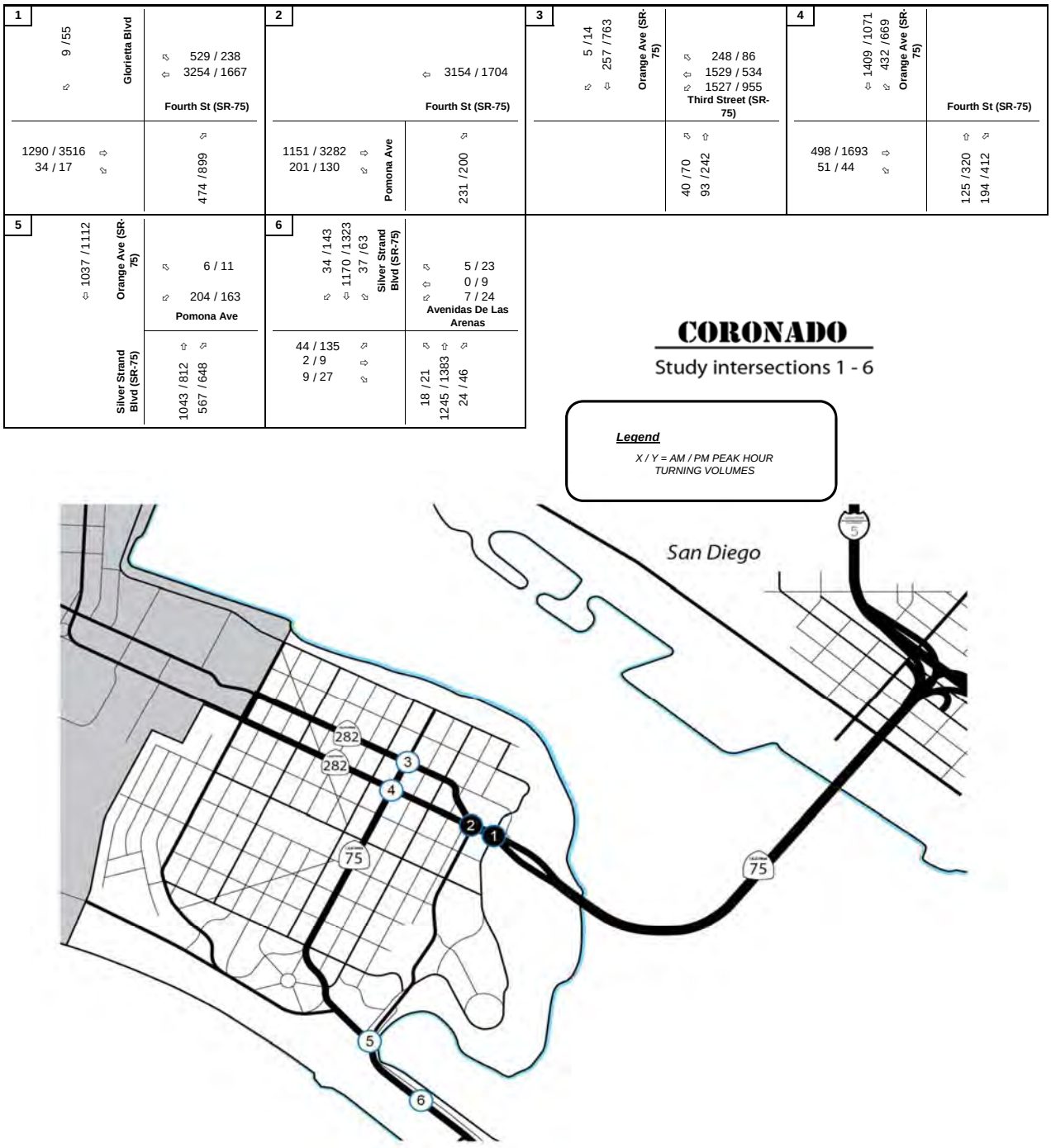

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Figure 3.9-6a
Existing with 1 CVN Peak-Hour Traffic Volumes - Coronado

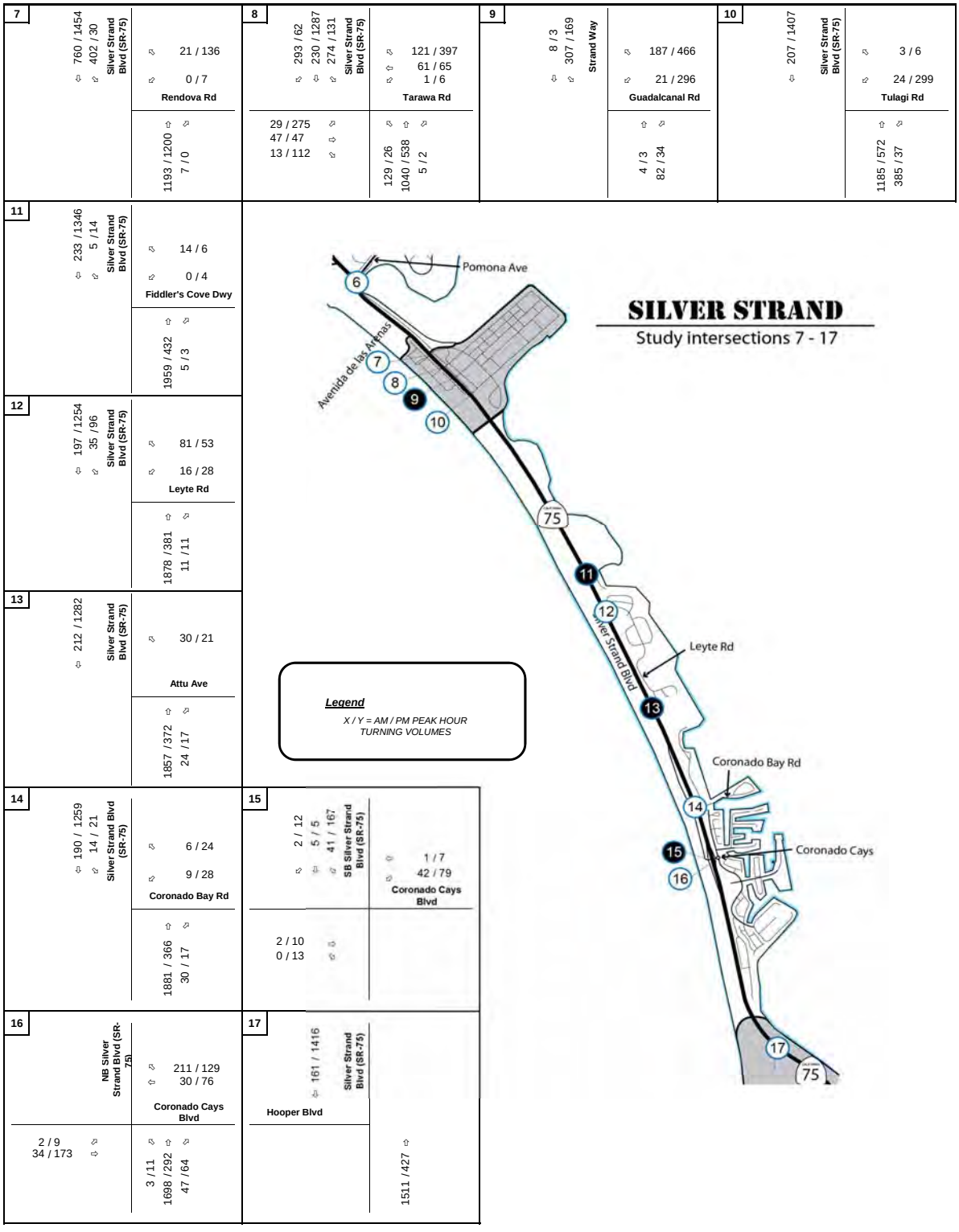

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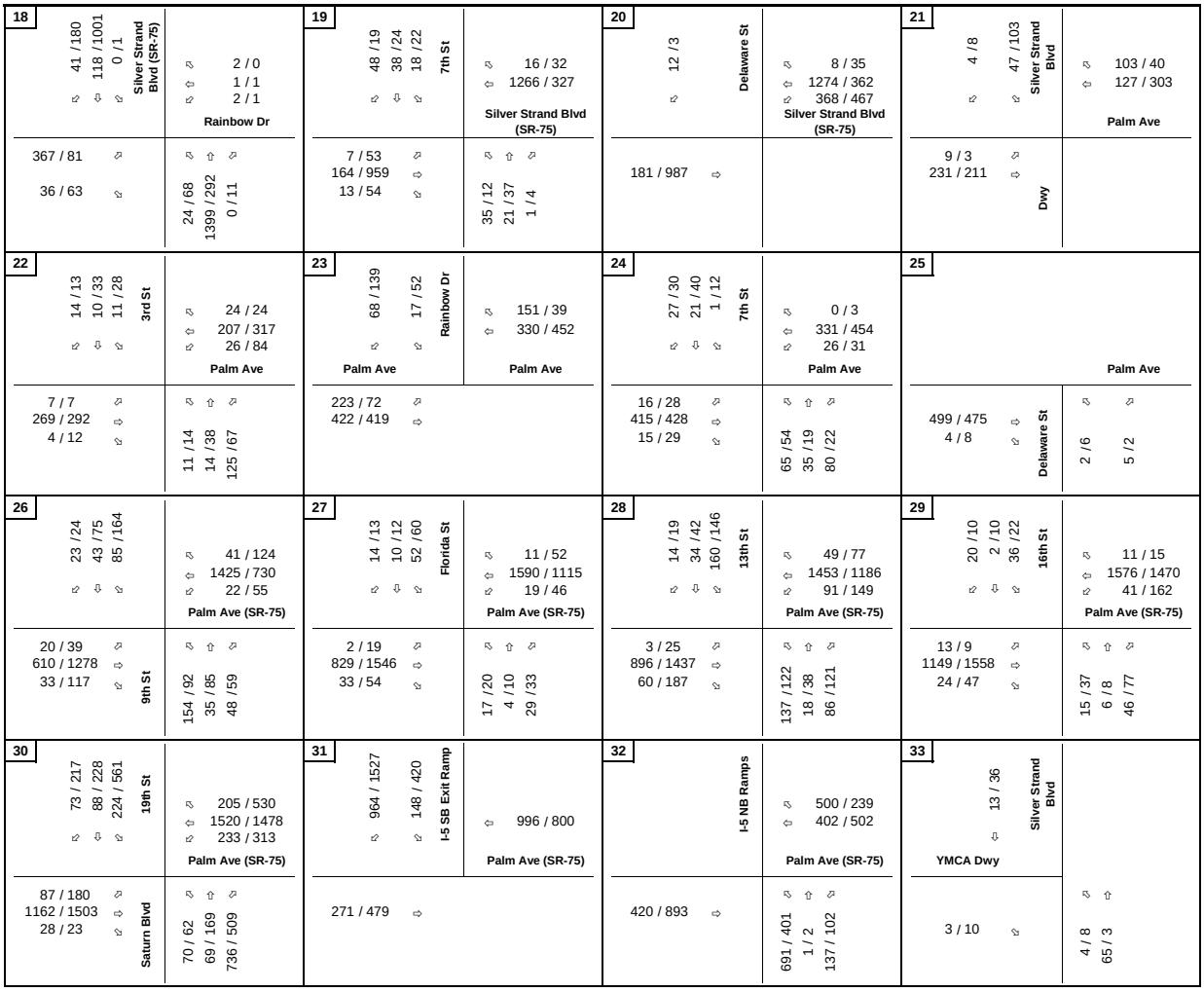
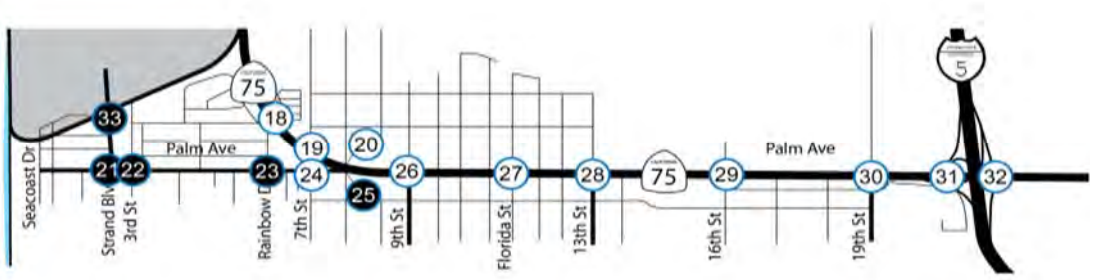
Figure 3.9-6b
Existing with 1 CVN Peak-Hour Traffic Volumes - Silver Strand





IMPERIAL BEACH

Study intersections 18 - 33

Legend

X / Y = AM / PM PEAK HOUR TURNING VOLUMES

Not to Scale

Figure 3.9-6c
Existing with 1 CVN Peak-Hour Traffic Volumes - Imperial Beach

Table 3.9-5
Existing (1 CVN) Conditions –
Peak-Hour Intersection LOS Summary

	Intersection	Traffic Control	Existing (1 CVN)	
			AM	PM
1	Glorietta Blvd & Fourth St (SR-75)	One-Way Stop	**43.1 (E)**	18.5 (C)
2	Fourth St (SR-75) & Pomona Ave	One-Way Stop	23.9 (C)	**306.3 (F)**
3	Orange Ave (SR-75) & Third St (SR-75)	Signalized	27.4 (C)	37.7 (D)
4	Orange Ave (SR-75) & Fourth St (SR-75)	Signalized	37.1 (D)	**59.1 (E)**
5	Silver Strand Blvd/Orange Ave (SR-75) & Pomona Ave	Signalized	11.6 (B)	14.0 (B)
6	Silver Strand Blvd (SR-75) & Avenida De Las Arenas	Signalized	11.6 (B)	16.9 (B)
7	Silver Strand Blvd (SR-75) & Rendova Rd	Signalized	16.5 (B)	10.8 (B)
8	Silver Strand Blvd (SR-75) & Tarawa Rd	Signalized	45.3 (D)	53.8 (D)
9	Strand Way and Guadalcanal Rd	Two-Way Stop	10.4 (B)	16.6 (C)
10	Silver Strand Blvd (SR-75) & Tulagi Rd	Signalized	2.8 (A)	46.5 (D)
11	Silver Strand Blvd (SR-75) & Fiddler's Cove Dwy	One-Way Stop	23.2 (C)	18.0 (C)
12	Silver Strand Blvd (SR-75) & Leyte Rd	Signalized	20.9 (C)	6.8 (A)
13	Silver Strand Blvd (SR-75) & Attu Ave	One-Way Stop	23.3 (C)	9.8 (A)
14	Silver Strand Blvd (SR-75) & Coronado Bay Rd	Signalized	5.6 (A)	3.2 (A)
15	SB Silver Strand Blvd (SR-75) & Coronado Cays Blvd	All-Way Stop	7.7 (A)	7.7 (A)
16	NB Silver Strand Blvd (SR-75) & Coronado Cays Blvd	Signalized	18.0 (B)	10.5 (B)
17	Silver Strand Blvd (SR-75) & Hooper Blvd	Signalized	Does not exist under this scenario	
18	Silver Strand Blvd (SR-75) & Rainbow Dr	Signalized	23.2 (C)	19.4 (B)
19	7th St & Silver Strand Blvd (SR-75)	Signalized	**83.9 (F)**	**56.5 (E)**
20	Silver Strand Blvd (SR-75) & Delaware St	Signalized	8.0 (A)	10.6 (B)
21	Dwy/Silver Strand Blvd & Palm Ave	Two-Way Stop	13.0 (B)	19.6 (C)
22	3rd St & Palm Ave	All-Way Stop	10.9 (B)	19.0 (C)
23	Palm Ave & Rainbow Dr	One-Way Stop	32.0 (D)	25.1 (D)

	Intersection	Traffic Control	Existing (1 CVN)	
			AM	PM
24	7th St & Palm Ave	Signalized	8.4 (A)	5.8 (A)
25	Delaware St & Palm Ave	One-Way Stop	11.9 (B)	12.6 (B)
26	9th St & Palm Ave (SR-75)	Signalized	38.5 (D)	44.1 (D)
27	Florida St & Palm Ave (SR-75)	Signalized	8.0 (A)	9.0 (A)
28	13th St & Palm Ave (SR-75)	Signalized	35.9 (D)	42.5 (D)
29	16th St & Palm Ave (SR-75)	Signalized	13.0 (B)	17.1 (B)
30	Saturn Blvd/19th St & Palm Ave (SR-75)	Signalized	42.9 (D)	**147.7 (F)**
31	Palm Ave (SR-75) & I-5 SB Exit Ramp	Signalized	24.7 (C)	30.4 (C)
32	I-5 NB Ramps & Palm Ave (SR-75)	Signalized	10.5 (B)	8.6 (A)
33	Silver Strand Blvd & YMCA Dwy	One-Way Stop	8.5 (A)	8.6 (A)

Notes: Table reflects intersection delay (LOS). Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle. At a one-way or two-way stop-controlled intersection, delay refers to the worst movement. LOS calculations are based on the methodology outlined in the 2000 Highway Capacity Manual and performed using Synchro 8.0. **Bold** values indicate intersections operating at LOS E or F.
SB=southbound; NB=northbound

3.9.2.2.2 Existing with 2 CVNs Conditions

Roadway Network

There are no changes to the roadway network when a second CVN is in port.

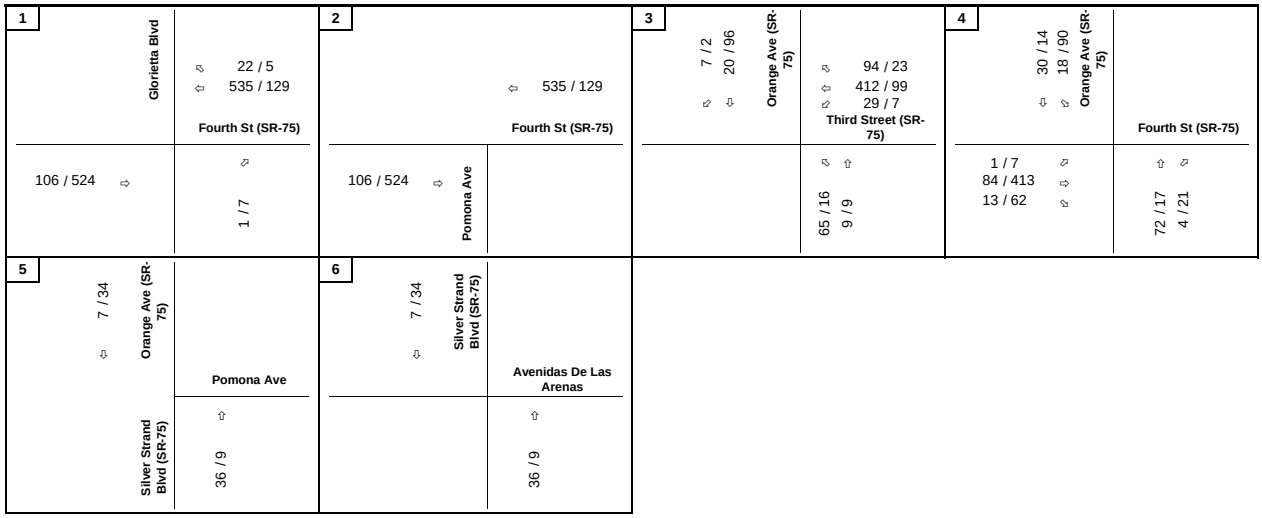
Traffic Volumes

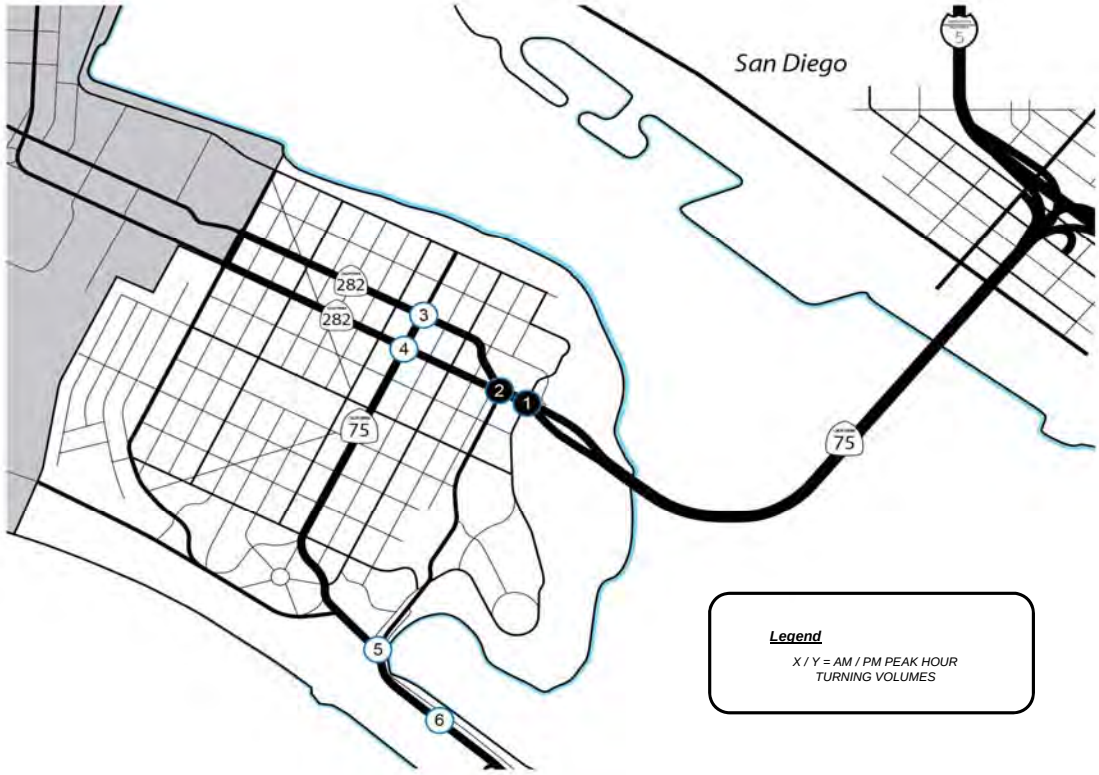
Peak-hour traffic was assigned to the intersections within the ROI based on the Home Port Facilities for three Nimitz-Class Aircraft Carriers Study methodology when a second CVN is in port at NASNI. The additional traffic assigned to the network with a second CVN in port is summarized in Figures 3.9-7a, b, and c.

Intersection Analysis

An analysis of existing conditions at each of the study intersections indicates that all intersections operate at LOS D or better during both peak periods, except at the following locations:

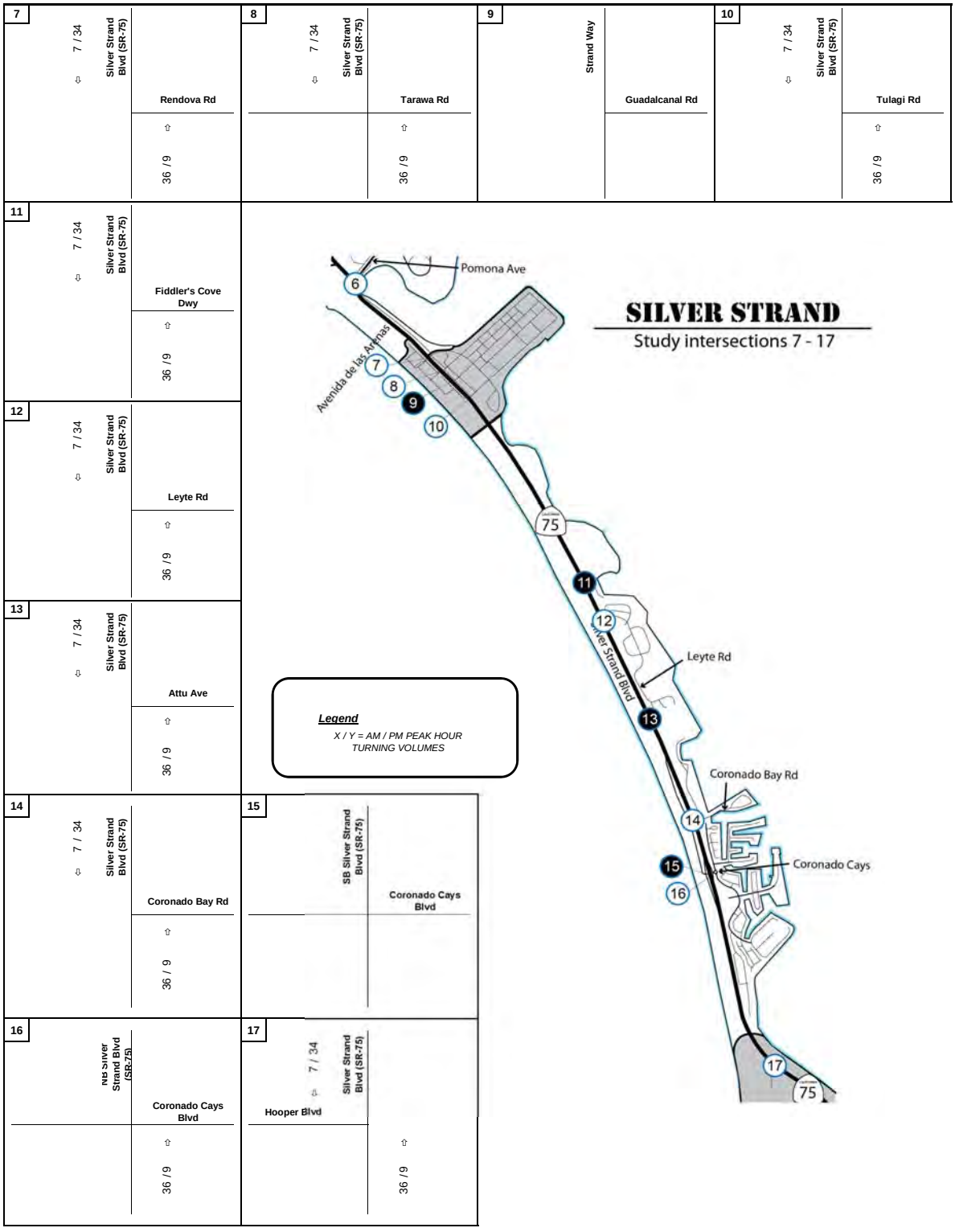
- #1 Glorietta Blvd and Fourth St (SR-75) *AM peak (LOS F)*
- #2 Fourth St (SR-75) and Pomona Ave *PM peak (LOS F)*
- #4 Orange Ave (SR-75) and Fourth St (SR-75) *PM peak (LOS F)*
- #19 7th St and Silver Strand Blvd (SR-75) *AM & PM peaks (LOS F/E)*
- #30 Saturn Blvd/19th St and Palm Ave (SR-75) *PM peak (LOS F)*





Not to Scale

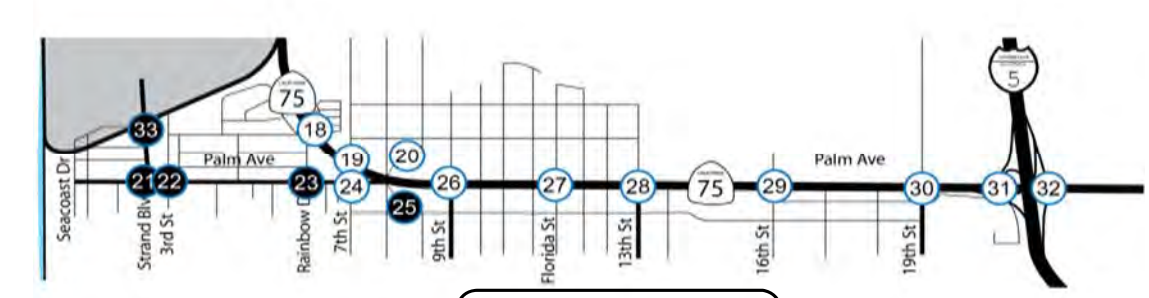
Figure 3.9-7a
Additional Peak-Hour Traffic Volumes from a CVN - Coronado



Not to Scale

Figure 3.9-7b
Additional Peak-Hour Traffic Volumes from a CVN - Silver Strand

18 Silver Strand Blvd (SR-75) ⇦ 7 / 34 Rainbow Dr ⇧ 36 / 9	**19** 7th St ⇦ 36 / 9 Silver Strand Blvd (SR-75) 7 / 34 ⇨	**20** Delaware St ⇦ 36 / 9 Silver Strand Blvd (SR-75) 7 / 34 ⇨	**21** Silver Strand Blvd Palm Ave Dwy				
22 3rd St Palm Ave	**23** Rainbow Dr Palm Ave	**24** 7th St Palm Ave	**25** Palm Ave Delaware St				
26 ⇦ 36 / 9 Palm Ave (SR-75) 7 / 34 ⇨ 9th St	**27** Florida St ⇦ 36 / 9 Palm Ave (SR-75) 7 / 34 ⇨	**28** 13th St ⇦ 36 / 9 Palm Ave (SR-75) 7 / 34 ⇨	**29** 16th St ⇦ 36 / 9 Palm Ave (SR-75) 7 / 34 ⇨				
30 19th St ⇦ 36 / 9 Palm Ave (SR-75) 7 / 34 ⇨ Saturn Blvd	**31** I-5 SB Exit Ramp ⇦ 36 / 9 Palm Ave (SR-75)	**32** I-5 NB Ramps Palm Ave (SR-75) ⇨ 36 / 9	**33** Silver Strand Blvd YMCA Dwy				



Legend

X / Y = AM / PM PEAK HOUR TURNING VOLUMES

IMPERIAL BEACH

Study intersections 18 - 33

Not to Scale

Figure 3.9-7c
Additional Peak-Hour Traffic Volumes from a CVN - Imperial Beach

The results of the intersection analysis are shown in Table 3.9-6.

Table 3.9-6
Existing (2 CVNs) Conditions –
Peak-Hour Intersection LOS Summary

Intersection		Traffic Control	Existing (2 CVNs)	
			AM	PM
1	Glorietta Blvd & Fourth St (SR-75)	One-Way Stop	**60.3 (F)**	**60.3 (F)**
2	Fourth St (SR-75) & Pomona Ave	One-Way Stop	26.7 (D)	26.7 (D)
3	Orange Ave (SR-75) & Third St (SR-75)	Signalized	**62.8 (E)**	45.1 (D)
4	Orange Ave (SR-75) & Fourth St (SR-75)	Signalized	14.2 (B)	38.0 (D)
5	Silver Strand Blvd/Orange Ave (SR-75) & Pomona Ave	Signalized	21.0 (C)	12.0 (B)
6	Silver Strand Blvd (SR-75) & Avenida De Las Arenas	Signalized	9.3 (A)	11.7 (B)
7	Silver Strand Blvd (SR-75) & Rendova Rd	Signalized	33.4 (C)	16.4 (B)
8	Silver Strand Blvd (SR-75) & Tarawa Rd	Signalized	31.4 (C)	45.6 (D)
9	Strand Way and Guadalcanal Rd	Two-Way Stop	10.4 (B)	10.4 (B)
10	Silver Strand Blvd (SR-75) & Tulagi Rd	Signalized	6.1 (A)	2.8 (A)
11	Silver Strand Blvd (SR-75) & Fiddler's Cove Dwy	One-Way Stop	23.8 (C)	23.8 (C)
12	Silver Strand Blvd (SR-75) & Leyte Rd	Signalized	12.4 (B)	21.9 (C)
13	Silver Strand Blvd (SR-75) & Attu Ave	One-Way Stop	23.9 (C)	23.9 (C)
14	Silver Strand Blvd (SR-75) & Coronado Bay Rd	Signalized	5.6 (A)	3.2 (A)
15	SB Silver Strand Blvd (SR-75) & Coronado Cays Blvd	All-Way Stop	7.7 (A)	7.7 (A)
16	NB Silver Strand Blvd (SR-75) & Coronado Cays Blvd	Signalized	18.6 (B)	10.5 (B)
17	Silver Strand Blvd (SR-75) & Hooper Blvd	Signalized	Does not exist under this scenario	
18	Silver Strand Blvd (SR-75) & Rainbow Dr	Signalized	23.7 (C)	19.5 (B)
19	7th St & Silver Strand Blvd (SR-75)	Signalized	**83.3 (F)**	**56.5 (E)**
20	Silver Strand Blvd (SR-75) & Delaware St	Signalized	7.8 (A)	10.5 (B)
21	Dwy/Silver Strand Blvd & Palm Ave	Two-Way Stop	13.0 (B)	19.6 (C)

Intersection		Traffic Control	Existing (2 CVNs)	
			AM	PM
22	3rd St & Palm Ave	All-Way Stop	10.9 (B)	19.0 (C)
23	Palm Ave & Rainbow Dr	One-Way Stop	32.0 (D)	25.1 (D)
24	7th St & Palm Ave	Signalized	8.4 (A)	5.8 (A)
25	Delaware St & Palm Ave	One-Way Stop	11.9 (B)	12.6 (B)
26	9th St & Palm Ave (SR-75)	Signalized	38.8 (D)	44.4 (D)
27	Florida St & Palm Ave (SR-75)	Signalized	7.9 (A)	8.9 (A)
28	13th St & Palm Ave (SR-75)	Signalized	36.1 (D)	43.1 (D)
29	16th St & Palm Ave (SR-75)	Signalized	13.1 (B)	17.3 (B)
30	Saturn Blvd/19th St & Palm Ave (SR-75)	Signalized	43.2 (D)	**151.3 (F)**
31	Palm Ave (SR-75) & I-5 SB Exit Ramp	Signalized	27.1 (C)	31.3 (C)
32	I-5 NB Ramps & Palm Ave (SR-75)	Signalized	10.8 (B)	8.6 (A)
33	Silver Strand Blvd & YMCA Dwy	One-Way Stop	8.5 (A)	8.6 (A)

Notes: Table reflects intersection delay (LOS). Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle. At a one-way or two-way stop-controlled intersection, delay refers to the worst movement. LOS calculations are based on the methodology outlined in the 2000 Highway Capacity Manual and performed using Synchro 8.0. **Bold** values indicate intersections operating at LOS E or F.
SB=southbound; NB=northbound

3.9.2.3 No Action Alternative

Analysis for the No Action Alternative is presented for the years 2024 and 2040 in this section.

- Year 2024 is the year at which all Proposed Action construction is assumed to be completed and the new facilities are fully operational. Year 2024 No Action Alternative conditions scenarios that reflect the traffic volumes and operations with one and two CVNs in port are presented in this section.
- Year 2040 is the future year that represents a horizon year condition, approximately 30 years from existing conditions. Year 2040 No Action Alternative conditions scenarios that reflect the traffic volumes and operations with one and two CVNs in port are presented in this section.

3.9.2.3.1 No Action Alternative: Year 2024 (1 CVN)

Roadway Network

All roadway segments and intersection geometrics in the ROI are assumed to be the same as existing conditions.

Traffic Volumes

To determine Year 2024 traffic volumes, linear interpolation was used between the existing scenario and the Year 2040 scenario. Specifically, the growth in volumes between the existing and Year 2040 scenarios was assumed to be distributed equally for each year. The yearly increase was then multiplied by the number of years difference between Year 2024 and the existing year (12) to estimate Year 2024 baseline volumes.

To ensure that reasonably foreseeable projects in the area are included in the Year 2024 traffic volumes, known projects were identified and added to existing volumes to be compared to the forecasted Year 2024 volumes. These cumulative projects are defined as projects within the study area that have been approved but are not yet generating trips. These projects are assumed to be open to the public by 2024. The volumes for the cumulative projects are typically captured in traffic forecast models, but not in the years between the existing condition and the horizon year condition. For this Proposed Action, two cumulative projects have been identified:

1. Hotel del Coronado Master Plan (Burton 2008): Expansion of Hotel del Coronado to have additional meeting space, additional guest rooms, and changes to parking and circulation. Improvements to Avenida del Sol are planned and would occur with the expansion of the meeting space and guest rooms.

2. Bernardo Shores: A 203-unit condo-style residential development is planned in Imperial Beach north of SR-75 near Rainbow Drive. Access would be obtained from the intersection of SR-75 and Rainbow Drive.

At locations where the existing-plus-cumulative project traffic volumes exceeded the model-based Year 2024 forecasted volumes, the existing-plus-cumulative project volumes were used. Otherwise, the previously described Year 2024 forecast volumes were used.

While no other projects were identified at the time the study was prepared, new projects will arise before build-out of this project is complete. Future projects in Coronado and Imperial Beach should use information from this study as a cumulative project for future projects to help forecast traffic operations in the near term.

Figures D-1a, b, and c in Appendix D(1) show the forecast Year 2024 one-CVN No Action Alternative peak-hour turning movement volumes at the study intersections.

Intersection Analysis

An analysis of Year 2024 one-CVN No Action Alternative conditions at each of the study intersections indicates all intersections would operate at LOS D or better during both peak periods, except at the following locations:

- #1 Glorietta Blvd and Fourth St (SR-75) *AM peak (LOS E)*
- #2 Fourth St (SR-75) and Pomona Ave *PM peak (LOS F)*
- #4 Orange Ave (SR-75) and Fourth St (SR-75) *PM Peak (LOS E)*
- #8 Silver Strand Blvd (SR-75) and Tarawa Rd *PM peak (LOS E)*
- #9 Strand Way and Guadalcanal Rd *PM peak (LOS E)*

- #10 Silver Strand Blvd (SR-75) and Tulagi Rd *PM peak (LOS E)*
- #18 Silver Strand Blvd (SR-75) and Rainbow Dr *AM peak (LOS E)*
- #19 7th St and Silver Strand Blvd (SR-75) *AM & PM peaks (LOS F/E)*
- #23 Palm Ave and Rainbow Dr *AM peak (LOS E)*
- #30 Saturn Blvd/19th St and Palm Ave (SR-75) *PM peak (LOS F)*

The results of the intersection analysis are shown in Table D-1 in Appendix D(1).

3.9.2.3.2 No Action Alternative: Year 2024 (2 CVNs)

Roadway Network

There are no changes to the roadway network when a second CVN is in port under the Year 2024 scenario.

Traffic Volumes

Peak-hour traffic associated with a second CVN (Figures 3.9-7a, b, and c) was added to the peak-hour traffic volumes with one CVN in port (Figures D-1a, b, and c in Appendix D[1]) to obtain traffic volumes for the No Action Alternative under Year 2024 with two CVNs at each of the intersections in the ROI.

Intersection Analysis

An analysis of each of the study intersections for Year 2024 with two CVNs indicates that all intersections would operate at LOS D or better during both peak periods, except at the following locations:

- #1 Glorietta Blvd and Fourth St (SR-75) *AM peak (LOS F)*
- #2 Fourth St (SR-75) and Pomona Ave *PM peak (LOS F)*
- #4 Orange Av (SR-75) and Fourth St (SR-75) *PM Peak (LOS F)*
- #8 Silver Strand Blvd (SR-75) and Tarawa Rd *PM peak (LOS E)*
- #9 Strand Way and Guadalcanal Rd *PM peak (LOS E)*
- #10 Silver Strand Blvd (SR-75) and Tulagi Rd *PM peak (LOS E)*
- #18 Silver Strand Blvd (SR-75) and Rainbow Dr *AM peak (LOS F)*
- #19 7th St and Silver Strand Blvd (SR-75) AM & *PM peaks (LOS F/E)*
- #23 Palm Ave and Rainbow Dr *AM peak (LOS E)*
- #30 Saturn Blvd/19th St and Palm Ave (SR-75) *PM peak (LOS F)*

The results of the intersection analysis are contained in Table D-2 in Appendix D(1).

3.9.2.3.3 No Action Alternative: Year 2040 (1 CVN)

Roadway Network

All roadway segments and intersection geometrics in the ROI are assumed to be the same as for existing conditions.

Traffic Volumes

To generate Year 2040 volumes from existing volumes, a comparison of SANDAG Series 12 Traffic Forecast Models was performed. The growth between 2008 and 2040 forecast model volumes along the

roadway segments in the ROI was calculated. After determining the traffic growth on individual roadways between the 2008 and 2040 traffic models, the study area was divided into four major zones and an average growth was determined for each zone. Zone boundaries were determined by the roadway characteristics and adjacent land uses. These zones are illustrated in Figure 3.9-8 and the growth associated with each zone as determined from the model comparison is also shown in the figure. The area growth factors shown in the figure were applied to the existing intersection volumes to estimate Year 2040 volumes.

Figures D-2a, b, and c in Appendix D(1) show the forecast Year 2040 one-CVN No Action Alternative peak-hour turning movement volumes at the study intersections.

Intersection Analysis

An analysis of Year 2040 one-CVN No Action Alternative conditions at each of the study intersections indicates that all intersections would operate at LOS D or better during both peak periods, except at the following locations:

- #1 Glorietta Blvd and Fourth St (SR-75) *AM peak (LOS E)*
- #2 Fourth St (SR-75) and Pomona Ave *PM peak (LOS F)*
- #4 Orange Ave (SR-75) and Fourth St (SR-75) *PM peak (LOS E)*
- #8 Silver Strand Blvd (SR-75) and Tarawa Rd *AM & PM peaks (LOS E/F)*
- #9 Strand Way and Guadalcanal Rd *PM peak (LOS F)*
- #10 Silver Strand Blvd (SR-75) and Tulagi Rd *PM peak (LOS F)*
- #11 Silver Strand Blvd (SR-75) and Fiddler's Cove Dwy *AM peak (LOS E)*
- #12 Silver Strand Blvd (SR-75) and Leyte Rd *AM peak (LOS E)*
- #13 Silver Strand Blvd (SR-75) and Attu Ave *AM peak (LOS E)*
- #16 Silver Strand Blvd (SR-75) and Coronado Cays Blvd *AM peak (LOS E)*
- #18 Silver Strand Blvd (SR-75) and Rainbow Dr *AM peak (LOS F)*
- #19 7th Street and Silver Strand Blvd (SR-75) *AM & PM peaks (LOS F/F)*
- #23 Palm Ave and Rainbow Dr *AM peak (LOS E)*
- #30 Saturn Blvd /19th St and Palm Ave (SR-75) *AM & PM peak (LOS E/F)*
- #31 I-5 SB Exit Ramp and Palm Ave (SR-75) *PM peak (LOS E)*

The results of the intersection analysis are contained in Table D-3 in Appendix D(1).

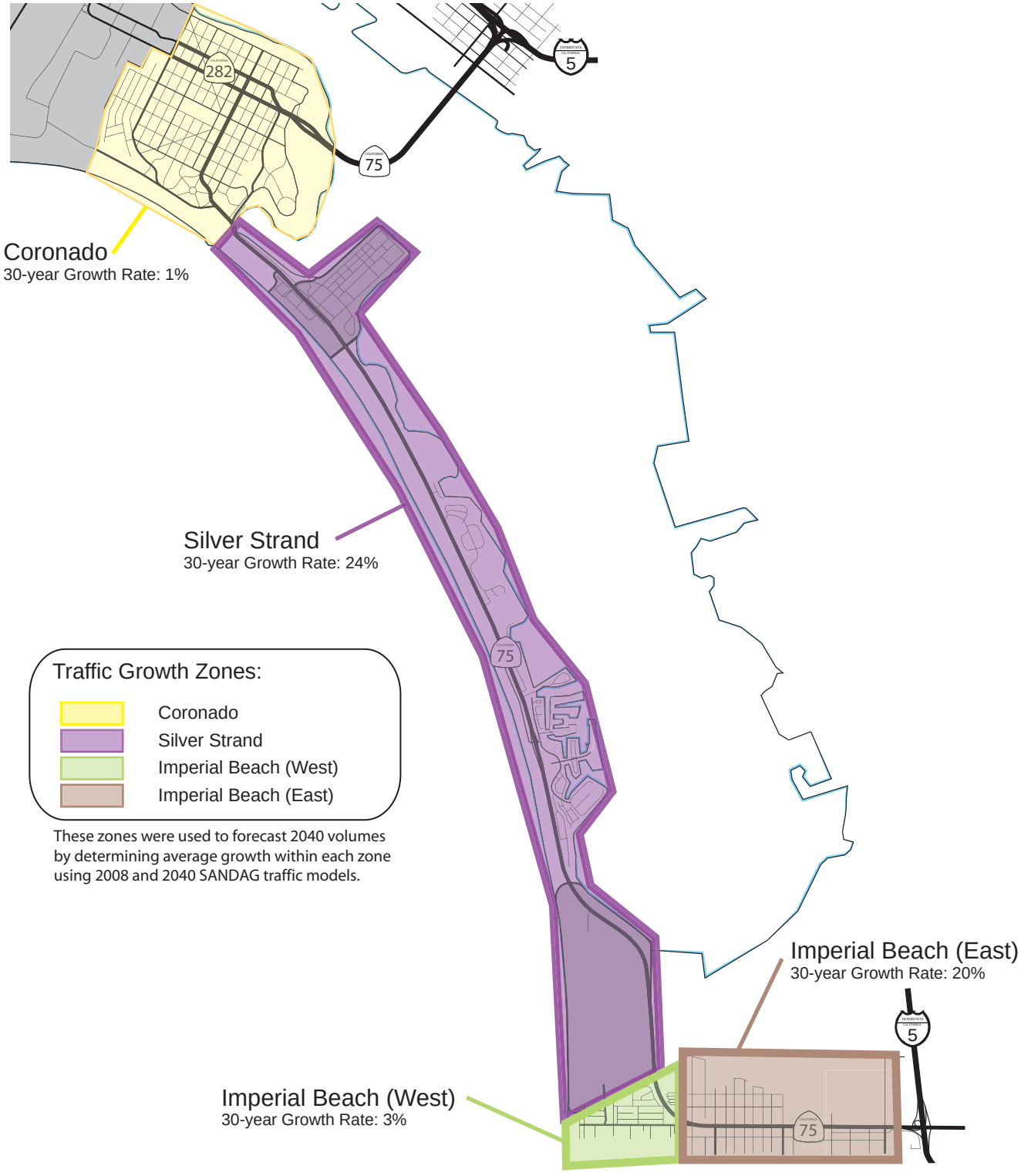
3.9.2.3.4 No Action Alternative: Year 2040 (2 CVNs)

Roadway Network

There are no changes to the roadway network when a second CVN is in port under the Year 2040 scenario.

Traffic Volumes

Peak-hour traffic associated with a second CVN (Figures 3.9-7a, b, and c) was added to the peak-hour traffic volumes with one CVN in port (Figures D-2a, b, and c in Appendix D[1]) to obtain traffic volumes for the No Action Alternative under Year 2040 with two CVNs at each of the intersections in the ROI.



Not to Scale

Figure 3.9-8
Traffic Growth Zones

Intersection Analysis

An analysis of each of the study intersections for Year 2040 with two CVNs indicates that all intersections would operate at LOS D or better during both peak periods, except at the following locations:

- #1 Glorietta Blvd and Fourth St (SR-75) *AM peak (LOS F)*
- #2 Fourth St (SR-75) and Pomona Ave *PM peak (LOS F)*
- #4 Orange Ave (SR-75) and Fourth St (SR-75) *PM peak (LOS F)*
- #8 Silver Strand Blvd (SR-75) and Tarawa Rd *AM & PM peaks (LOS E/F)*
- #9 Strand Way and Guadalcanal Rd *PM peak (LOS F)*
- #10 Silver Strand Blvd (SR-75) and Tulagi Rd *PM peak (LOS F)*
- #11 Silver Strand Blvd (SR-75) and Fiddler's Cove Dwy *AM peak (LOS E)*
- #12 Silver Strand Blvd (SR-75) and Leyte Rd *AM peak (LOS E)*
- #13 Silver Strand Blvd (SR-75) and Attu Ave *AM peak (LOS E)*
- #16 Silver Strand Blvd (SR-75) and Coronado Cays Blvd *AM peak (LOS E)*
- #18 Silver Strand Blvd (SR-75) and Rainbow Dr *AM peak (LOS E)*
- #19 7th Street and Silver Strand Blvd (SR-75) *AM & PM peaks (LOS F/F)*
- #23 Palm Ave and Rainbow Dr *AM peak (LOS E)*
- #28 13th St & Palm Ave (SR-75) *PM peak (LOS E)*
- #30 Saturn Blvd /19th Street and Palm Ave (SR-75) *AM & PM peak (LOS E/F)*
- #31 I-5 SB Exit Ramp and Palm Ave (SR-75) *PM peak (LOS E)*

The results of the intersection analysis are contained in Table D-4 in Appendix D(1).

3.9.2.4 Alternative 1 – SSTC-South Bunker Demolition Alternative (Preferred Alternative)

Construction Traffic

Construction activity would vary depending on the facilities being built and the number of MILCONs underway concurrently. Construction traffic was estimated with the following assumptions using known information and input from Navy staff with experience in similar construction projects:

- Construction of each MILCON would last approximately 2 years.
- P-797 and P-915 begin construction in 2015 although funding would be pursued earlier.
- All other MILCONs would start the year after gaining funding. For example, FY 2016 projects begin in 2017.
- # of Construction Workers per day varies by size of building:
    - square feet < 25,000: 1 worker per 750 square feet
    - 25,000 ≤ square feet <75,000: 1 worker per 1,000 square feet
    - 75,000 ≤ square feet: 1 worker per 1,500 square feet
- Construction Worker Daily Trips: Average of 3 trips per construction worker per day (one inbound, one outbound, one non-peak)
- # of Construction Delivery Trucks per day: Average of 1 truck per 10,000 square feet
- Construction Delivery Truck Daily Trips: Average of 2 trips per truck per day (one inbound, one outbound)
- Total Construction Daily Trips = [# of Construction Delivery Trucks * passenger car equivalent factor (2.5) * # of trips per truck (2)] + [# of Construction Workers * # of trips per worker (3)]

- Total Construction Peak-Hour Trips = [# of construction workers + 0.25 * # of construction delivery trucks]. All peak-hour trips are inbound in the morning and outbound in the afternoon, and the same number of trips would occur in the morning and afternoon peak hour.
- Construction traffic estimates for Building 99 demolition debris removal include:
    - One roundtrip truck trip every 5 minutes, equal to 12 trucks per hour in each direction.
    - Trips were applied to each peak hour equally, assuming a constant flow of trucks all day at the above rate of 12 trucks per hour per direction.

Based on these assumptions, construction traffic was estimated for each year between 2015 and 2023 for each of the Alternatives. Two different construction scenarios were evaluated:

- "North only" assumes that all construction traffic would access SSTC-South through the location of the new north gate, Intersection 17 – Silver Strand Boulevard (SR-75) and Hooper Boulevard, and would use Palm Avenue (SR-75) to traverse between I-5 and the SSTC-South access point. Similarly, all operational traffic would also access SSTC-South through the location of the new north gate. The trip distribution methodology for operational traffic is consistent with the methodology used for full build-out of the project. This scenario assumes that a proper entry control point and proposed intersection improvements outside the entry control point are completed.
- "Construction North, Operations South" assumes that all construction traffic would access SSTC-South through the location of the new north gate, Intersection 17 – Silver Strand Boulevard (SR-75) and Hooper Boulevard, and would use Palm Avenue (SR-75) to traverse between I-5 and the SSTC-South access point. It also assumes that all operational traffic would access SSTC-South through the existing south gate in Imperial Beach. This scenario assumes the new entry control point may not be in place during the construction years. Proper security checkpoint procedures would still occur at the existing access for non-construction activity.

It is important to note that after each construction project is completed, the finished buildings are planned to be open for operations immediately. Thus, the roadway network would experience a combination of operational traffic and construction traffic during the build-out of the Proposed Action. To account for this in the construction traffic analysis, trip generation for each building was estimated using the same methodology used for the full build-out of the project and applied to the network the year after construction completion. The number of personnel for each construction project was provided by Navy staff to assist the trip generation effort. At SSTC-South, all operational trips were assumed to use the existing access located in Imperial Beach as the new entry control point may not be in place during the early construction years. Proper security checkpoint procedures would still occur at the existing access for non-construction activity. The trip distribution methodology for operational traffic is consistent with the methodology used for full build-out of the project. All personnel using SSTC-South or NASNI during construction years were assumed to be personnel relocating from NAB Coronado.

Table 3.9-7 shows the intersections that would operate at LOS E or F for years 2015–2023 as construction is being completed at SSTC-South for Alternative 1, which assumes Building 99 removal, assuming the "North only" scenario. All other intersections would operate at LOS D or better as shown in Table D-5 in Appendix D(1), which includes the resulting traffic operations for all intersections in the ROI. Table 3.9-8 shows the intersections that would operate at LOS E or F for years 2015–2023 as

Table 3.9-7
Alternative 1 (Preferred Alternative) "North Only" Construction Year Intersection Traffic Analysis with 2 CVNs

	INTERSECTION	2015		2016		2017		2018		2019		2020		2021		2022		2023	
		AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
1	Glorietta Blvd & Fourth St (SR-75)	**F**	C	**F**	C	**F**	C	**F**	C	**F**	C	**F**	C	**F**	C	**F**	C	**F**	C
2	Fourth St (SR-75) & Pomona Ave	D	**F**	D	**F**	D	**F**	D	**F**	D	**F**	D	**F**	D	**F**	D	**F**	D	**F**
3	Orange Ave (SR-75) & Third St (SR-75)	D	D	D	D	D	D	D	D	**E**	D	D	D	D	D	D	D	**E**	D
8	Silver Strand Blvd (SR-75) & Tarawa Rd	D	**E**	D	**E**	D	**E**	D	**E**	D	**E**	D	**E**	D	**E**	D	**E**	D	**E**
9	Strand Way & Guadalcanal Rd	B	C	B	C	B	C	B	D	B	**E**	B	D	B	**E**	B	**E**	B	**E**
10	Silver Strand Blvd (SR-75) & Tulagi Rd	A	**E**	A	**E**	A	**E**	A	**E**	A	**E**	A	**E**	A	**E**	A	**E**	A	**E**
17	Silver Strand Blvd (SR-75) & Hooper Blvd	A	**F**	A	**F**	**E**	**F**	**F**	**F**	**F**	**F**	**F**	**F**	**F**	**F**	**F**	**F**	**F**	**F**
	with signal improvement	B	A	A	B	B	B	A	B	B	D	B	**F**	B	**E**	B	D	A	C
18	Silver Strand Blvd (SR-75) & Rainbow Dr	C	C	D	C	D	C	**E**	D	**F**	D	**F**	**F**	**F**	**F**	**F**	**E**	**F**	D
19	7th St & Silver Strand Blvd (SR-75)	**F**	**E**	**F**	**E**	**F**	**E**	**F**	**E**	**F**	**E**	**F**	**F**	**F**	**F**	**F**	**E**	**F**	**E**
26	9th St & Palm Ave (SR-75)	D	D	D	D	D	D	D	D	**E**	**E**	**F**	**F**	**F**	**F**	**E**	**E**	**E**	**E**
28	13th St & Palm Ave (SR-75)	D	D	D	D	D	D	D	D	D	**E**	**E**	**F**	**E**	**F**	D	**E**	D	**E**
29	16th St & Palm Ave (SR-75)	B	B	B	C	B	C	B	C	B	C	C	**E**	C	C	B	C	B	C
30	Saturn Blvd/19th St & Palm Ave (SR-75)	D	**F**	D	**F**	D	**F**	D	**F**	**E**	**F**	**F**	**F**	**F**	**F**	**E**	**F**	**E**	**F**
31	I-5 SB Exit Ramp & Palm Ave (SR-75)	C	C	D	D	D	D	D	D	D	D	**F**	D	**F**	D	**E**	D	D	D

Bold and shaded cells indicate locations where the project has a temporary impact during construction.

The signal improvements at intersection 17 include an exclusive southbound right-turn lane and extension of the existing northbound right-turn lane.

Table 3.9-8

Alternative 1 (Preferred Alternative) "Construction North, Operations South" Construction Year Intersection Traffic Analysis with 2 CVNs

	INTERSECTION	2015		2016		2017		2018		2019		2020		2021		2022		2023	
		AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
1	Glorietta Blvd & Fourth St (SR-75)	**F**	C	**F**	C	**F**	C	**F**	C	**F**	C	**F**	C	**F**	C	**F**	C	**F**	C
2	Fourth St (SR-75) & Pomona Ave	D	**F**	D	**F**	D	**F**	D	**F**	D	**F**	D	**F**	D	**F**	D	**F**	D	**F**
8	Silver Strand Blvd (SR-75) & Tarawa Rd	D	**E**	D	**E**	D	**E**	D	**E**	D	**E**	D	**E**	D	**E**	D	**E**	D	**E**
9	Strand Way & Guadalcanal Rd	B	C	B	C	B	C	B	D	B	D	B	D	B	**E**	B	**E**	B	**E**
10	Silver Strand Blvd (SR-75) & Tulagi Rd	A	**E**	A	**E**	A	**E**	A	**E**	A	**E**	A	**E**	A	**E**	A	**E**	A	**E**
17	Silver Strand Blvd (SR-75) & Hooper Blvd	A	**F**	A	**F**	A	**F**	A	**F**	A	**F**	B	**F**	B	**F**	A	**F**	A	A
	with signal improvement	B	A	A	B	B	B	A	A	A	B	B	C	A	B	A	A	A	B
18	Silver Strand Blvd (SR-75) & Rainbow Dr	C	C	D	C	D	C	D	C	**E**	**E**	**F**	**F**	**F**	**F**	D	D	**E**	**E**
19	7th St & Silver Strand Blvd (SR-75)	**F**	**E**	**F**	**E**	**F**	**E**	**F**	**E**	**F**	**E**	**F**	**E**	**F**	**E**	**F**	**E**	**F**	**E**
21	Dwy/Silver Strand Blvd & Palm Ave	B	C	B	C	B	**F**	C	**F**	C	**F**	C	**F**	C	**F**	D	**F**	C	**F**
22	3rd St & Palm Ave	B	C	B	C	B	**E**	B	**F**	C	**F**	D	**F**	**F**	**F**	**F**	**F**	C	**F**
23	Palm Ave & Rainbow Dr	D	D	D	D	**E**	**E**	**F**	**E**	**F**	**F**	**F**	**F**	**F**	**F**	**F**	**F**	**F**	**F**
25	Delaware St & Palm Ave	B	B	B	C	B	C	B	C	B	D	B	**E**	B	D	B	D	B	D
26	9th St & Palm Ave (SR-75)	D	D	D	D	D	D	D	D	**E**	**E**	**F**	**F**	**F**	**F**	**E**	**F**	**E**	**E**
28	13th St & Palm Ave (SR-75)	D	D	D	D	D	D	D	D	D	**E**	**E**	**F**	**E**	**F**	D	**E**	D	**E**
29	16th St & Palm Ave (SR-75)	B	B	B	C	B	C	B	C	B	D	C	**E**	C	**E**	B	D	B	D
30	Saturn Blvd/19th St & Palm Ave (SR-75)	D	**F**	D	**F**	D	**F**	**E**	**F**	**E**	**F**	**F**	**F**	**F**	**F**	**E**	**F**	**E**	**F**
31	I-5 SB Exit Ramp & Palm Ave (SR-75)	C	C	D	D	D	D	D	D	**E**	D	**F**	D	**F**	D	**E**	D	**E**	D

Bold and shaded cells indicate locations where the project has a temporary impact during construction.

The signal improvements at intersection 17 include an exclusive southbound right-turn lane and extension of the existing northbound right-turn lane.

construction is being completed at SSTC-South for Alternative 1, which assumes Building 99 removal, assuming the "Construction North, Operations South" scenario. All other intersections would operate at LOS D or better as shown in Table D-6 in Appendix D(1), which includes the resulting traffic operations for all intersections in the ROI. Construction traffic would have impacts to the roadway network immediately (2015) at six locations along SR-75. Impacts continue to add on as the development intensity increases and buildings are opened for use. Year 2017 is when the intersections through Imperial Beach have impacts and represents an oversaturation of the existing roadway network in Imperial Beach for the "Construction North, Operations South' scenario. Construction traffic impacts would be significant and unmitigable.

Postconstruction Traffic

Trip Generation

Trip generation was calculated based on the shifts in personnel upon completion of Alternative 1. It is anticipated that 3,045 personnel would relocate from NAB Coronado to SSTC-South with the construction of Alternative 1. The new vacancy within NAB Coronado would allow an increase of 1,000 personnel from other Navy tenants. Also, personnel fluctuations would occur independent of the Proposed Action that must be captured in the NAB Coronado trip generation. This would involve an increase of 549 personnel and a decrease of 123 personnel. Further, it is expected that 191 personnel from locations outside of NAB Coronado would use the facilities at SSTC during the peak hours. This value was calculated by subtracting the existing and future NSW personnel from the total population anticipated at SSTC-South (3,353-117-3,045 = 191). No personnel would be relocated to or from NASNI with Alternative 1. Table 3.9-9 summarizes the change in personnel associated with Alternative 1. Table 3.9-10 shows the resulting trips associated with the personnel changes at NAB Coronado and SSTC-South.

Trip Distribution

Separate trip distributions were created for NAB Coronado and SSTC-South. Trip distributions were determined based on regional models prepared by SANDAG and by information obtained from the Navy. Figure 3.9-2 shows the general trip distribution through the ROI for NAB Coronado. Figure 3.9-3 shows the general trip distribution through the ROI for SSTC-South.

Trip Assignment

The trip distribution assumed for each installation was multiplied by the trip generation for each installation to determine trip assignment. The overall trip assignment for Alternative 1 is a sum of the NAB Coronado trip assignment and the SSTC-South trip assignment.

Figures D-3a, b, and c in Appendix D(1) show the resulting trip assignment for Alternative 1 at NAB Coronado. Figures D-4a, b, and c in Appendix D(1) show the resulting trip assignment for Alternative 1 at SSTC-South. Figures D-5a, b, and c in Appendix D(1) show the total combined trip assignment.

The resulting trip assignment for NAB Coronado is negative trips. When the number of personnel at an installation is assumed to decrease, the trip generation has negative values, and the resulting trip assignment is a decrease in traffic volumes. Conversely, the resulting trip assignment for SSTC-South is positive trips since the number of personnel at an installation is assumed to increase.

Table 3.9-9
Alternative 1 (Preferred Alternative) Personnel Changes

NAB Coronado	***+ / -***	***Number***
Existing Total Personnel at NAB Coronado (2012) [1]		5,182
Planned increase in personnel by Year 2024 [2]	(+)	*549*
Future Total Baseline Personnel at NAB Coronado (2024)		*5,731*
Personnel from NAB Coronado relocating to SSTC-South with project [3]	**(-)**	*3,045*
Personnel relocating elsewhere by Year 2024 [2]	**(-)**	*123*
Increase in personnel with area abandoned by project's personnel relocation [4]	(+)	*1,000*
Total Net Personnel at NAB Coronado with project		3,563
Change in personnel at NAB** Coronado **with project build-out		***-1,619***

SSTC-South		***Number***
Existing NSW personnel at SSTC-South [1]		117
NSW personnel to relocate to SSTC-South with project [3]	(+)	*3,045*
Other personnel to use project training facilities [5]	(+)	*191*
Total personnel at SSTC-South with project [3]		3,353
Change in personnel at SSTC-South with project build-out		**3,236**

NASNI		***Number***
Existing NSW personnel at NASNI [6]		30
NSW personnel to relocate to NASNI with project [3]	(+)	*0*
Total NSW personnel at NASNI with project [3]		30
Change in personnel at NASNI with project build-out		**0**

[1] Existing personnel numbers at NAB Coronado obtained from the Naval Base Coronado Pre-final Activity Overview Plan, dated September 2010.
[2] This estimate was provided by an NSW representative in January 2012 based on information known at that time.
[3] This value was obtained from a point paper established in February 2013 that reflected anticipated personnel changes with the build-out of the NBC Coastal Campus.
[4] This estimate was provided by an NBC representative and based on an analysis of the potential building space at NAB Coronado vacated by the Proposed Action.
[5] This value represents the use of training facilities that would be developed as part of the NBC Coastal Campus project by users not part of NSW. This value was calculated by subtracting the existing and future NSW personnel from the total population anticipated at SSTC-South (3,353-117-3,045 = 191).
[6] This estimate was provided by an NSW representative in May 2013 and based on information known at that time.

Table 3.9-10
Alternative 1 (Preferred Alternative) Trip Generation Calculations

NAB Coronado	***Number***
Existing NSW personnel at NAB Coronado [1]	*5,182*
Current daily vehicle trips generated for NAB Coronado (2.5 trips / person) [2]	**12,955**
Change in personnel at NAB with project build-out	*-1,619*
Daily vehicle project trips generated for NAB Coronado (2.5 trips / person) [2]	**-4,048**
Morning peak-hour project trips for NAB Coronado [3]	*-364*
Inbound / Outbound	*(-328 in / -36 out)*
Afternoon peak-hour project trips for NAB Coronado [3]	*-405*
Inbound / Outbound	*(-81 in / -324 out)*
Resulting daily vehicle trips for NAB Coronado	**8,908**

SSTC-South	***Number***
Existing NSW personnel at SSTC-South [1]	*117*
Daily vehicle trips generated for SSTC-South (2.5 trips / person) [2]	293
Existing daily trips between SSTC-South and NAB Coronado (non-peak) [4]	504
Current total daily vehicle trips for SSTC-South [5]	**796**
Change in personnel at SSTC-South with project build-out	*3,236*
Daily vehicle project trips generated for SSTC-South (2.5 trips / person) [2]	**8,090**
Morning peak-hour project trips for SSTC-South [3]	*728*
Inbound / Outbound	*(655 in / 73 out)*
Afternoon peak-hour project trips for SSTC-South [3]	*809*
Inbound / Outbound	*(162 in / 647 out)*
Resulting daily vehicle trips for SSTC-South	***8,886***

[1] Existing personnel numbers at NAB Coronado obtained from the Naval Base Coronado Pre-final Activity Overview Plan, dated September 2010.
[2] Daily trips are assumed to be 2.5 trips per person. This rate is obtained from the Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region, SANDAG, April 2002, and is consistent with the City of San Diego Land Development Code – Trip Generation Manual, May 2003.
[3] Peak-hour trip rates are obtained from the Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region, SANDAG, April 2002.
[4] This value is the difference between the calculated number of daily trips by existing personnel and the number of daily trips assumed in the SANDAG Series 12 Forecast Model to access SSTC-South during Year 2008.
[5] Daily trips obtained from the SANDAG Series 12 Forecast Model, Year 2008, traffic analysis zone (TAZ) 4288.

Traffic Volumes

To obtain traffic volumes with Alternative 1, the trips associated with this alternative were added to the Year 2024 No Action Alternative and Year 2040 No Action Alternative volumes to obtain peak-hour turning movement volumes at intersections in the ROI when one and two CVNs are in port.

NBC Coastal Campus Internal Circulation

The internal circulation system of the Coastal Campus would prevent any traffic backup onto SR-75 from the proposed entry control point in the north and into Imperial Beach from the southern gate. The system would include three main north-south roads that provide access to the various facilities and parking. The proposed internal roadway network would accommodate personal vehicles, government vehicles, and trucks. The existing perimeter road would remain unchanged and usable outside the Coastal Campus footprint. The internal circulation of the Coastal Campus would not result in any on-base or off-base significant traffic impacts.

3.9.2.4.1 Year 2024 with Alternative 1 Conditions

Intersection analysis was performed for Year 2024 with one and two CVNs in port with the addition of Alternative 1 traffic conditions.

Year 2024 (1 CVN) with Alternative 1 Conditions

An analysis of Year 2024 one-CVN with Alternative 1 conditions at each of the study intersections indicates that all intersections would operate at LOS D or better during both peak periods, except at the following locations:

- #1 Glorietta Blvd and Fourth St (SR-75) *AM peak (LOS E)*
- #2 Fourth St (SR-75) and Pomona Ave *PM peak (LOS F)*
- #4 Orange Ave (SR-75) and Fourth St (SR-75) *PM peak (LOS E)*
- **#10 Silver Strand Blvd (SR-75) and Tulagi Rd** *PM peak (LOS E)*
- **#18 Silver Strand Blvd (SR-75) and Rainbow Dr** *AM peak (LOS E)*
- #19 7th St and Silver Strand Blvd (SR-75) *AM & PM peaks (LOS F/E)*
- #23 Palm Ave and Rainbow Dr *AM peak (LOS E)*
- **#26 9th St and Palm Ave (SR-75)** *PM peak (LOS E)*
- **#28 13th St and Palm Ave (SR-75)** *PM peak (LOS E)*
- **#30 Saturn Blvd /19th St and Palm Ave (SR-75)** *AM & PM peak (LOS E/F)*

Five of the 10 intersections would have a significant impact due to implementation of Alternative 1 and are shown in **bold**. The intersections on Fourth Street would have a decrease in delay as a result of Alternative 1 and, therefore, would not be considered to have a significant impact. The intersections of 7th Street and Silver Strand Boulevard (SR-75) and Palm Avenue and Rainbow Drive would have an increase in delay but would not meet the significance criteria. The results of the intersection analysis are contained in Table D-7 in Appendix D(1).

In general, the intersections in Coronado and at NAB Coronado have a decrease in delay with the addition of Alternative 1 and the intersections in Imperial Beach have an increase in delay. This is a result

of a shift in destination from NAB Coronado to SSTC-South for the personnel that would utilize the NBC Coastal Campus.

Year 2024 (2 CVNs) with Alternative 1 Conditions

An analysis of Year 2024 two-CVN with Alternative 1 conditions at each of the study intersections indicates that all intersections would operate at LOS D or better during both peak periods, except at the following locations:

- #1 Glorietta Blvd and Fourth St (SR-75) *AM peak (LOS F)*
- #2 Fourth St (SR-75) and Pomona Ave *PM peak (LOS F)*
- #4 Orange Ave (SR-75) and Fourth St (SR-75) *PM peak (LOS F)*
- **#10 Silver Strand Blvd (SR-75) and Tulagi Rd** *PM peak (LOS F)*
- **#18 Silver Strand Blvd (SR-75) and Rainbow Dr** *AM peak (LOS E)*
- **#19 7th St and Silver Strand Blvd (SR-75)** *AM & PM peaks (LOS F)*
- #23 Palm Ave and Rainbow Dr *AM peak (LOS E)*
- #**26 9th St and Palm Ave (SR-75)** *PM peak (LOS E)*
- **#28 13th St and Palm Ave (SR-75)** *PM peak (LOS E)*
- **#30 Saturn Blvd /19th St and Palm Ave (SR-75)** *AM & PM peak (LOS E/F)*

Six of the 10 intersections would have a significant impact due to implementation of Alternative 1 and are shown in **bold**. Five of these locations are the same intersections that would have impacts with one CVN in port. The intersection of 7**th** Street and Silver Strand Boulevard (SR-75) would be a new impact with two CVNs in port. The results of the intersection analysis are contained in Table D-8 in Appendix D(1).

3.9.2.4.2 Year 2040 with Alternative 1 Conditions

Intersection analysis was performed for Year 2040 with one and two CVNs in port with the addition of Alternative 1 traffic conditions.

Year 2040 (1 CVN) with Alternative 1 Conditions

An analysis of Year 2040 one-CVN with Alternative 1 conditions at each of the study intersections indicates that all intersections would operate at LOS D or better during both peak periods, except at the following locations:

- #1 Glorietta Blvd and Fourth St (SR-75) *AM peak (LOS E)*
- #2 Fourth St (SR-75) and Pomona Av *PM peak (LOS F)*
- #4 Orange Ave (SR-75) and Fourth St (SR-75) *PM peak (LOS E)*
- #8 Silver Strand Blvd (SR-75) and Tarawa Rd *PM peak (LOS E)*
- #**10 Silver Strand Blvd (SR-75) and Tulagi Rd** *PM peak (LOS F)*
- #13 Silver Strand Blvd (SR-75) and Attu Ave *AM peak (LOS E)*
- **#18 Silver Strand Blvd (SR-75) and Rainbow Dr** *AM & PM peaks (LOS F/F)*
- **#19 7th St and Silver Strand Blvd (SR-75)** *AM & PM peaks (LOS F/F)*
- #23 Palm Ave and Rainbow Dr *AM peak (LOS E)*
- **#26 9th St and Palm Ave (SR-75)** *AM & PM peaks (LOS F/E)*
- **#28 13th St and Palm Ave (SR-75)** *PM peak (LOS E)*
- **#30 Saturn Blvd /19th St and Palm Ave (SR-75)** *AM & PM peak (LOS F/F)*
- **#31 I-5 SB Exit Ramp and Palm Ave (SR-75)** *AM & PM peak (LOS E/F)*

Seven of the 13 intersections would have a significant impact due to implementation of Alternative 1 and are shown in **bold**. The other intersections would have an increase in delay but would not meet the significance criteria or would have a decrease in delay as a result of Alternative 1 and, therefore, would not be considered to have a significant impact. The results of the intersection analysis are contained in Table D-9 in Appendix D(1).

In general, the addition of Alternative 1 improved intersection operations in Coronado, at NAB Coronado, and along Silver Strand Boulevard (SR-75) but worsened operations along Palm Avenue (SR-75). This is a result of the shift in personnel from NAB Coronado to SSTC-South.

Year 2040 (2 CVNs) with Alternative 1 Conditions

An analysis of Year 2040 two-CVN with Alternative 1 conditions at each of the study intersections indicates that all intersections would operate at LOS D or better during both peak periods, except at the following locations:

- #1 Glorietta Blvd and Fourth St (SR-75) *AM peak (LOS F)*
- #2 Fourth St (SR-75) and Pomona Ave *PM peak (LOS F)*
- #4 Orange Ave (SR-75) and Fourth St (SR-75) *PM peak (LOS F)*
- #8 Silver Strand Blvd (SR-75) and Tarawa Rd *PM peak (LOS E)*
- **#10 Silver Strand Blvd (SR-75) and Tulagi Rd** *PM peak (LOS F)*
- **#11 Silver Strand Blvd (SR-75) and Fiddler's Cover Dwy** *PM peak (LOS E)*
- #12 Silver Strand Blvd (SR-75) and Leyte Rd *AM peak (LOS E)*
- #13 Silver Strand Blvd (SR-75) and Attu Ave *AM peak (LOS E)*
- #16 NB Silver Strand Blvd (SR-75) and Coronado Cays Blvd *AM peak (LOS E)*
- **#18 Silver Strand Blvd (SR-75) and Rainbow Dr** *AM & PM peaks (LOS F/E)*
- **#19 7th St and Silver Strand Blvd (SR-75)** *AM & PM peaks (LOS F/F)*
- #23 Palm Ave and Rainbow Dr *AM peak (LOS E)*
- **#26 9th St and Palm Ave (SR-75)** *AM & PM peaks (LOS F/E)*
- **#28 13th St and Palm Ave (SR-75)** *PM peak (LOS E)*
- **#30 Saturn Blvd /19th St and Palm Ave (SR-75)** *AM & PM peak (LOS F/F)*
- **#31 I-5 SB Exit Ramp and Palm Ave (SR-75)** *AM & PM peak (LOS E/F)*

Eight of the 16 intersections would have a significant impact due to implementation of Alternative 1 and are shown in **bold**. Seven of these eight locations are the same intersections that would have impacts with one CVN in port. The intersection of Silver Strand Boulevard (SR-75) and Fiddler's Cove Driveway would be a new impact under Year 2040 two-CVN with Alternative 1 conditions. The other eight intersections would have a decrease in delay as a result of Alternative 1 or would have an increase in delay that does not meet the significance criteria and, therefore, would not be considered to have a significant impact. The results of the intersection analysis are contained in Table D-10 in Appendix D(1).

3.9.2.5 Alternative 2 – SSTC-South Bunker Retention Alternative

Construction Traffic

Construction traffic was estimated using the assumptions described in Section 3.9.2.4, except for the traffic associated with demolition of the bunker. The impact locations for Alternative 2 would be the same as those determined in Alternative 1.

Table 3.9-11 shows the intersections that would operate at LOS E or F for years 2016–2017 for Alternative 2 assuming the "North only" construction scenario. All other intersections would operate at LOS D or better as shown in Table D-11 in Appendix D(1), which includes the resulting traffic operations for all intersections in the ROI. Table 3.9-12 shows the intersections that would operate at LOS E or F for years 2016–2017 for Alternative 2 assuming the "Construction North, Operations South" construction scenario. All other intersections would operate at LOS D or better, as shown in Table D-12 in Appendix D(1), which includes the resulting traffic operations for all intersections in the ROI. The tables only show the 2 years that would be different than Alternative 1. The results for the other years of construction would be identical to what is shown in Tables 3.9-7 and 3.9-8.

Table 3.9-11
Alternative 2 "North Only" Construction Year Intersection
Traffic Analysis with 2 CVNs

		2016		2017	
	INTERSECTION	**AM**	**PM**	**AM**	**PM**
1	Glorietta Blvd & Fourth St (SR-75)	**F**	C	**F**	C
2	Fourth St (SR-75) & Pomona Ave	D	**F**	D	**F**
8	Silver Strand Blvd (SR-75) & Tarawa Rd	D	**E**	D	**E**
10	Silver Strand Blvd (SR-75) & Tulagi Rd	A	**E**	A	**E**
17	Silver Strand Blvd (SR-75) & Hooper Blvd	A	**F**	**F**	**F**
	with signal improvement	A	B	A	B
19	7th St & Silver Strand Blvd (SR-75)	**F**	**E**	**F**	**E**
30	Saturn Blvd/19th St & Palm Ave (SR-75)	D	**F**	D	**F**

Bold and shaded cells indicate locations where the project has a temporary impact during construction.
The signal improvements at intersection 17 include an exclusive southbound right-turn lane and extension of the existing northbound right-turn lane.

Table 3.9-12
Alternative 2 "Construction North, Operations South" Construction Year
Intersection Traffic Analysis with 2 CVNs

		2016		2017	
	INTERSECTION	**AM**	**PM**	**AM**	**PM**
2	Fourth St (SR-75) & Pomona Ave	D	**F**	D	**F**
8	Silver Strand Blvd (SR-75) & Tarawa Rd	D	**E**	D	**E**
10	Silver Strand Blvd (SR-75) & Tulagi Rd	A	**E**	A	**E**
17	Silver Strand Blvd (SR-75) & Hooper Blvd	A	**F**	A	**F**
	with signal improvement	A	A	A	A
19	7th St & Silver Strand Blvd (SR-75)	**F**	**E**	**F**	**E**
21	Dwy/Silver Strand Blvd & Palm Ave	B	C	B	**F**
22	3rd St & Palm Ave	B	C	B	**E**
23	Palm Ave & Rainbow Dr	D	D	**E**	**E**
30	Saturn Blvd/19th St & Palm Ave (SR-75)	D	**F**	D	**F**

Bold and shaded cells indicate locations where the project has a temporary impact during construction.
The signal improvements at intersection 17 include an exclusive southbound right-turn lane and extension of the existing northbound right-turn lane.

Postconstruction Traffic

Alternative 2 conditions would have the same reallocation of personnel as Alternative 1 as there are no differences in the assumed Proposed Action facilities between the two alternatives. Since the trip generation is based on the number of personnel, there would be no difference in traffic generation between Alternative 1 and Alternative 2. Further, the trip distribution would not change between the alternatives. Therefore, the traffic and circulation analysis for Alternative 2 would be identical to the findings for Alternative 1, provided in Sections 3.9.2.4.1 and 3.9.2.4.2.

NBC Coastal Campus Internal Circulation

The internal circulation system of Alternative 2 would be similar to Alternative 1. No significant on-base or off-base traffic impacts would result.

3.9.2.6 Alternative 3 – Multi-Installation Alternative

Construction Traffic

Table 3.9-13 shows the intersections that would operate at LOS E or F for years 2021–2023 as construction is being completed for Alternative 3 assuming the "North only" scenario. All other intersections would operate at LOS D or better as shown in Table D-13 in Appendix D(1), which includes the resulting traffic operations for all intersections in the ROI. Table 3.9-14 shows the intersections that would operate at a LOS of E or F for years 2021–2023 as construction is being completed for Alternative 3 assuming the "Construction North, Operations South" scenario. All other intersections would operate at LOS D or better as shown in Table D-14 in Appendix D(1), which includes the resulting traffic operations for all intersections in the ROI. The key component of Alternative 3 is that it would include construction of three facilities (P-904, P-912, and P-965) at NAB Coronado and a portion of the UAV facility (P-870) at NASNI. Each of these facilities is planned to begin construction in 2021. Thus, for years 2015–2020, the results of construction traffic activity would be identical to Alternative 2, shown in Tables D-11 and D-12 (and Tables D-5 and D-6 for years where Alternatives 1 and 2 have identical results). There would be additional impact locations for Alternative 3 when compared to Alternative 1 during years 2021 and 2022.

Postconstruction Traffic

Trip Generation

Trip generation was calculated based on the number of shifts in personnel upon completion of Alternative 3. It is anticipated that 2,507 personnel would relocate from NAB Coronado to SSTC-South with the construction of Alternative 3. The new vacancy within NAB Coronado would allow an increase of 1,000 personnel from other Navy tenants. Also, the NBC Planning Department is expecting personnel fluctuations independent of the Proposed Action that must be captured in the NAB Coronado trip generation (increase of 549 and decrease of 123). Further, it is expected that 191 personnel from locations outside of NAB Coronado would use the facilities at SSTC-South during the peak hours. It is anticipated that 50 personnel would relocate from NAB Coronado to NASNI under Alternative 3.

Table 3.9-13
Alternative 3 "North Only" Construction Year
Intersection Traffic Analysis with 2 CVNs

	INTERSECTION	2021		2022		2023	
		AM	**PM**	**AM**	**PM**	**AM**	**PM**
1	Glorietta Blvd & Fourth St (SR-75)	**F**	C	**F**	C	**F**	C
2	Fourth St (SR-75) & Pomona Ave	D	**F**	D	**F**	D	**F**
3	Orange Ave (SR-75) & Third St (SR-75)	**E**	D	**E**	D	**E**	D
8	Silver Strand Blvd (SR-75) & Tarawa Rd	**E**	**F**	**E**	**F**	**E**	**F**
9	Strand Way & Guadalcanal Rd	B	**F**	B	**F**	B	**F**
10	Silver Strand Blvd (SR-75) & Tulagi Rd	A	**E**	A	**E**	A	**E**
17	Silver Strand Blvd (SR-75) & Hooper Blvd	**F**	**F**	**F**	**F**	**F**	**F**
	with signal improvement	B	**F**	B	**E**	B	C
18	Silver Strand Blvd (SR-75) & Rainbow Dr	**F**	**F**	**F**	**F**	**F**	**E**
19	7th St & Silver Strand Blvd (SR-75)	**F**	**F**	**F**	**F**	**F**	**E**
20	Silver Strand Blvd (SR-75) & Delaware St	A	**E**	A	C	A	B
23	Palm Ave & Rainbow Dr	D	D	D	D	**E**	D
26	9th St & Palm Ave (SR-75)	**F**	**F**	**F**	**F**	**E**	**E**
28	13th St & Palm Ave (SR-75)	**E**	**F**	D	**F**	D	**E**
29	16th St & Palm Ave (SR-75)	D	**E**	C	D	B	C
30	Saturn Blvd/19th St & Palm Ave (SR-75)	**F**	**F**	**F**	**F**	**E**	**F**
31	I-5 SB Exit Ramp & Palm Ave (SR-75)	**F**	D	**E**	D	**E**	**E**

Bold and shaded cells indicate locations where the project has a temporary impact during construction.
The signal improvements at intersection 17 include an exclusive southbound right-turn lane and extension of the existing northbound right-turn lane.

Table 3.9-14
Alternative 3 "Construction North, Operations South" Construction Year
Intersection Traffic Analysis with 2 CVNs

	INTERSECTION	2021		2022		2023	
		AM	**PM**	**AM**	**PM**	**AM**	**PM**
1	Glorietta Blvd & Fourth St (SR-75)	**F**	C	**F**	C	**F**	C
2	Fourth St (SR-75) & Pomona Ave	D	**F**	D	**F**	D	**F**
8	Silver Strand Blvd (SR-75) & Tarawa Rd	**E**	**E**	**E**	**E**	D	**E**
9	Strand Way & Guadalcanal Rd	B	**E**	B	**E**	B	**E**
10	Silver Strand Blvd (SR-75) & Tulagi Rd	A	**E**	A	**E**	A	**E**
17	Silver Strand Blvd (SR-75) & Hooper Blvd	B	**F**	A	**F**	A	A
	with signal improvement	A	C	A	A	A	A
18	Silver Strand Blvd (SR-75) & Rainbow Dr	**F**	**F**	**E**	**E**	C	D
19	7th St & Silver Strand Blvd (SR-75)	**F**	**F**	**F**	**E**	**F**	**E**
21	Dwy/Silver Strand Blvd & Palm Ave	C	**F**	D	**F**	D	**F**
22	3rd St & Palm Ave	**F**	**F**	**F**	**F**	**F**	**F**
23	Palm Ave & Rainbow Dr	**F**	**F**	**F**	**F**	**F**	**F**
25	Delaware St & Palm Ave	B	**F**	B	**E**	B	D
26	9th St & Palm Ave (SR-75)	**F**	**F**	**F**	**F**	**E**	**F**
28	13th St & Palm Ave (SR-75)	**E**	**F**	D	**F**	D	**F**
29	16th St & Palm Ave (SR-75)	D	**F**	C	**E**	B	D
30	Saturn Blvd/19th St & Palm Ave (SR-75)	**F**	**F**	**F**	**F**	**E**	**F**
31	I-5 SB Exit Ramp & Palm Ave (SR-75)	**F**	D	**F**	D	**E**	**E**

Bold and shaded cells indicate locations where the project has a temporary impact during construction.
The signal improvements at intersection 17 include an exclusive southbound right-turn lane and extension of the existing northbound right-turn lane.

Table 3.9-15 summarizes the change in personnel associated with Alternative 3. Table 3.9-16 shows the resulting trips associated with the personnel changes at NAB Coronado, SSTC-South, and NASNI.

Table 3.9-15
Alternative 3 Personnel Changes

NAB Coronado	***+ / -***	***Number***
Existing Total Personnel at NAB Coronado (2012) [1]		5,182
Planned increase in personnel by Year 2024 [2]	(+)	*549*
Future Total Baseline Personnel at NAB Coronado (2024)		*5,731*
Personnel from NAB Coronado relocating to SSTC-South with project [3]	**(-)**	*2,507*
Personnel relocating elsewhere by Year 2024 [2]	**(-)**	*123*
Increase in personnel with area abandoned by project's personnel relocation [4]	(+)	*1,000*
Total Net Personnel at NAB Coronado (with project)		4,101
Change in personnel at NAB Coronado with project build-out		***-1,081***

SSTC-South		***Number***
Existing NSW personnel at SSTC-South [1]		117
NSW personnel to relocate to SSTC-South with project [3]	(+)	*2,507*
Other personnel to use project training facilities[5]	(+)	*191*
Total personnel at SSTC-South with project [3]		2,815
Change in personnel at SSTC-South with project build-out		**2,698**

NASNI		***Number***
Existing NSW personnel at NASNI [6]		30
NSW personnel to relocate to NASNI with project [3]	(+)	*50*
Total NSW personnel at NASNI with project [3]		80
Change in personnel at NASNI with project build-out		**50**

[1] Existing personnel numbers at NAB Coronado obtained from the Naval Base Coronado Pre-final Activity Overview Plan, dated September 2010.
[2] This estimate was provided by an NSW representative in January 2012 and based on information known at that time.
[3] This value was obtained from a point paper established in February 2013 that reflected anticipated personnel changes with the build-out of the NBC Coastal Campus.
[4] This estimate was provided by an NBC representative and based on an analysis of the potential building space at NAB Coronado vacated by the Proposed Action.
[5] This value represents the use of training facilities that would be developed as part of the Coastal Campus project by users not part of NSW. This value was calculated by subtracting the existing and future NSW personnel from the total population anticipated at SSTC-South (3,353-117-3,045 = 191).
[6] This estimate was provided by an NSW representative in May 2013 and based on information known at that time.

Table 3.9-16
Alternative 3 Trip Generation Calculations

NAB Coronado	***Number***
Existing NSW personnel at NAB Coronado [1]	*5,182*
Current daily vehicle trips generated for NAB Coronado (2.5 trips / person) [2]	**12,955**
Change in personnel at NAB Coronado with project build-out	*-1,081*
Daily vehicle project trips generated for NAB Coronado (2.5 trips / person) [2]	**-2,703**
Morning peak-hour project trips for NAB Coronado [3]	*-243*
Inbound / Outbound	*(-219 in / -24 out)*
Afternoon peak-hour project trips for NAB Coronado [3]	*-270*
Inbound / Outbound	*(-54 in / -216 out)*
Resulting daily vehicle trips for NAB Coronado	***10,253***

SSTC-South	***Number***
Existing NSW personnel at SSTC-South [1]	*117*
Daily vehicle trips generated for SSTC-South (2.5 trips / person) [2]	293
Existing daily trips between SSTC-South and NAB Coronado (non-peak) [4]	504
Current total daily vehicle trips for SSTC-South [5]	**796**
Change in personnel at SSTC-South with project build-out	*2,698*
Daily vehicle project trips generated for SSTC-South (2.5 trips / person) [2]	**6,745**
Morning peak-hour project trips for SSTC-South [3]	*607*
Inbound / Outbound	*(546 in / 61 out)*
Afternoon peak-hour project trips for SSTC-South [3]	*675*
Inbound / Outbound	*(135 in / 540 out)*
Resulting daily vehicle trips for SSTC-South	***7,541***

NASNI	***Number***
Existing NSW personnel at NASNI [1]	30
Current daily NSW vehicle trips generated for NASNI (2.5 trips / person) [2]	**75**
Change in personnel at NASNI with project build-out	*50*
Daily vehicle project trips generated for NASNI (2.5 trips / person) [2]	**125**
Morning peak-hour project trips for NASNI [3]	11
Inbound / Outbound	*(10 in / 1 out)*
Afternoon peak-hour project trips for NASNI [3]	13
Inbound / Outbound	*(3 in / 10 out)*

[1] Existing personnel numbers at NAB Coronado obtained from the Naval Base Coronado Pre-final Activity Overview Plan, dated September 2010.
[2] Daily trips are assumed to be 2.5 trips per person. This rate is obtained from the Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region, SANDAG, April 2002, and is consistent with the City of San Diego Land Development Code - Trip Generation Manual, May 2003.
[3] Peak-hour trip rates are obtained from the Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region, SANDAG, April 2002.
[4] This value is the difference between the calculated number of daily trips by existing personnel and the number of daily trips assumed in the SANDAG Series 12 Forecast Model to access SSTC-South during Year 2008.
[5] Daily trips obtained from the SANDAG Series 12 Forecast Model, Year 2008, traffic analysis zone (TAZ) 4288.

Trip Distribution

Separate trip distributions were created for NAB Coronado, SSTC-South, and NASNI. Trip distributions were determined based on regional models prepared by SANDAG and information obtained from the Navy. Figures 3.9-2, 3.9-3, and 3.9-4 show the general trip distribution through the ROI for NAB Coronado, SSTC-South, and NASNI.

Trip Assignment

The trip distribution assumed for each installation was multiplied by the trip generation for each installation to determine trip assignment. The overall trip assignment for Alternative 3 is a sum of the NAB Coronado trip assignment, SSTC-South trip assignment, and NASNI trip assignment.

Figures D-6a, b, and c in Appendix D(1) show the resulting trip assignment for Alternative 3 at NAB Coronado. Figures D-7a, b, and c in Appendix D(1) show the resulting trip assignment for Alternative 3 at SSTC-South. Figures D-8a, b, and c in Appendix D(1) show the resulting trip assignment for Alternative 3 at NASNI. Figures D-9a, b, and c in Appendix D(1) show the total trip assignment for Alternative 3.

The resulting trip assignment for NAB Coronado is negative trips. When the number of personnel at an installation is assumed to decrease, the trip generation has negative values, and the resulting trip assignment is a decrease in traffic volumes. Conversely, the resulting trip assignment for SSTC-South and NASNI are positive trips since the number of personnel at these installations is assumed to increase.

Traffic Volumes

To obtain traffic volumes with Alternative 3, the trips associated with this alternative were added to the Year 2024 No Action Alternative and Year 2040 No Action Alternative volumes at intersections in the ROI when one and two CVNs are in port.

NBC Coastal Campus Internal Circulation

The internal circulation system of Alternative 3 at SSTC-South would be similar to Alternative 1. No significant on-base or off-base traffic impacts would result.

3.9.2.6.1 Year 2024 with Alternative 3 Conditions

Intersection analysis was performed for Year 2024 with one and two CVNs in port with the addition of Alternative 3 traffic conditions.

Year 2024 (1 CVN) with Alternative 3 Conditions

An analysis of Year 2024 one-CVN with Alternative 3 conditions at each of the study intersections indicates that all intersections would operate at LOS D or better during both peak periods, except at the following locations:

- #1 Glorietta Blvd and Fourth St (SR-75) *AM peak (LOS E)*
- #2 Fourth St (SR-75) and Pomona Ave *PM peak (LOS F)*
- #4 Orange Ave (SR-75) and Fourth St (SR-75) *PM peak (LOS E)*
- **#10 Silver Strand Blvd (SR-75) and Tulagi Rd** *PM peak (LOS E)*
- **#18 Silver Strand Blvd (SR-75) and Rainbow Dr** *AM peak (LOS E)*
- #19 7th St and Silver Strand Blvd (SR-75) *AM & PM peaks (LOS F/E)*
- #23 Palm Ave and Rainbow Dr *AM peak (LOS E)*
- #**26 9th St and Palm Ave (SR-75)** *PM peak (LOS E)*
- **#28 13th St and Palm Ave (SR-75)** *PM peak (LOS E)*
- **#30 Saturn Blvd /19th St and Palm Ave (SR-75)** *AM & PM peak (LOS E/F)*

Five of the 10 intersections would have a significant impact due to implementation of Alternative 3 and are shown in **bold**. The other five intersections would have a decrease in delay or increase in delay that does not meet the significance criteria and, therefore, would not be considered to have a significant impact. The results of the intersection analysis are contained in Table D-15 in Appendix D(1).

In general, the intersections in Coronado are similar to the No Action Alternative, intersections at NAB Coronado have a decrease in delay, and intersections in Imperial Beach have an increase in delay with the addition of Alternative 3. This is primarily a result of a shift in destination from NAB Coronado to SSTC-South for some personnel that currently go to NAB Coronado.

Year 2024 (2 CVNs) with Alternative 3 Conditions

An analysis of Year 2024 two-CVN with Alternative 3 conditions at each of the study intersections indicates that all intersections would operate at LOS D or better during both peak periods, except at the following locations:

- #1 Glorietta Blvd and Fourth St (SR-75) *AM peak (LOS F)*
- #2 Fourth St (SR-75) and Pomona Ave *PM peak (LOS F)*
- **#4 Orange Ave (SR-75) and Fourth St (SR-75)** *PM peak (LOS F)*
- **#10 Silver Strand Blvd (SR-75) and Tulagi Rd** *PM peak (LOS F)*
- **#18 Silver Strand Blvd (SR-75) and Rainbow Dr** *AM peak (LOS F)*
- #19 7th St and Silver Strand Blvd (SR-75) *AM & PM peaks (LOS F/E)*
- #23 Palm Ave and Rainbow Dr *AM peak (LOS E)*
- #**26 9th St and Palm Ave (SR-75)** *PM peak (LOS E)*
- **#28 13th St and Palm Ave (SR-75)** *PM peak (LOS E)*
- **#30 Saturn Blvd /19th St and Palm Ave (SR-75)** *AM & PM peak (LOS E/F)*

Six of the 10 intersections would have a significant impact due to implementation of Alternative 3 and are shown in **bold**. Five of these six locations are the same intersections that would have impacts with one CVN in port. The intersection of Orange Avenue (SR-75) and Fourth Street (SR-75) is a new impact for Alternative 3 with two CVNs in port. The other four intersections would have a decrease in delay or increase in delay that does not meet the significance criteria and, therefore, would not be considered to have a significant impact. The results of the intersection analysis are contained in Table D-16 in Appendix D(1).

3.9.2.6.2 Year 2040 with Alternative 3 Conditions

Intersection analysis was performed for Year 2040 with one and two CVNs in port with the addition of Alternative 3 traffic conditions.

Year 2040 (1 CVN) with Alternative 3 Conditions

An analysis of Year 2040 one-CVN with Alternative 3 conditions at each of the study intersections indicates that all intersections would operate at LOS D or better during both peak periods, except at the following locations:

- #1 Glorietta Blvd and Fourth St (SR-75) *AM peak (LOS E)*
- #2 Fourth St (SR-75) and Pomona Ave *PM peak (LOS F)*
- #4 Orange Ave (SR-75) and Fourth St (SR-75) *PM peak (LOS E)*
- #8 Silver Strand Blvd (SR-75) and Tarawa Rd *PM peak (LOS E)*
- #9 Strand Way and Guadalcanal Rd *PM peak (LOS E)*
- #**10 Silver Strand Blvd (SR-75) and Tulagi Rd** *PM peak (LOS F)*
- #12 Silver Strand Blvd (SR-75) and Leyte Road *AM peak (LOS E)*
- #13 Silver Strand Blvd (SR-75) and Attu Ave *AM peak (LOS E)*
- **#18 Silver Strand Blvd (SR-75) and Rainbow Dr** *AM & PM peaks (LOS F/E)*
- **#19 7th St and Silver Strand Blvd (SR-75)** *AM & PM peaks (LOS F/F)*
- #23 Palm Ave and Rainbow Dr *AM peak (LOS E)*
- **#26 9th St and Palm Ave (SR-75)** *AM & PM peaks (LOS E/E)*
- **#28 13th St and Palm Ave (SR-75)** *PM peak (LOS E)*
- **#30 Saturn Blvd /19th St and Palm Ave (SR-75)** *AM & PM peak (LOS F/F)*
- **#31 I-5 SB Exit Ramp and Palm Ave (SR-75)** *AM & PM peak (LOS E/F)*

Seven of the 15 intersections would have a significant impact due to implementation of Alternative 3 and are shown in **bold**. The other eight intersections would have a decrease in delay or increase in delay that does not meet the significance criteria and, therefore, would not be considered to have a significant impact. The results of the intersection analysis are contained in Table D-17 in Appendix D(1).

With the addition of Alternative 3, the intersections in Coronado are similar to No Action Alternative results, intersections near NAB Coronado and along Silver Strand have a decrease in delay, and intersections along Palm Avenue (SR-75) in Imperial Beach have an increase in delay.

Year 2040 (2 CVNs) with Alternative 3 Conditions

An analysis of Year 2040 two-CVN with Alternative 3 conditions at each of the study intersections indicates that all intersections would operate at LOS D or better during both peak periods, except at the following locations:

- #1 Glorietta Blvd and Fourth St (SR-75) *AM peak (LOS F)*
- #2 Fourth St (SR-75) and Pomona Ave *PM peak (LOS F)*
- **#4 Orange Ave (SR-75) and Fourth St (SR-75)** *PM peak (LOS F)*
- #8 Silver Strand Blvd (SR-75) and Tarawa Rd *PM peak (LOS F)*
- #9 Strand Way and Guadalcanal Rd *PM peak (LOS E)*
- #**10 Silver Strand Blvd (SR-75) and Tulagi Rd** *PM peak (LOS F)*
- #11 Silver Strand Blvd (SR-75) and Fiddler's Cover Dwy *AM peak (LOS E)*
- #12 Silver Strand Blvd (SR-75) and Leyte Rd *AM peak (LOS E)*
- #13 Silver Strand Blvd (SR-75) and Attu Ave *AM peak (LOS E)*
- #16 NB Silver Strand Blvd (SR-75) and Coronado Cays Blvd *AM peak (LOS E)*
- **#18 Silver Strand Blvd (SR-75) and Rainbow Dr** *AM & PM peaks (LOS F/E)*
- **#19 7th St and Silver Strand Blvd (SR-75)** *AM & PM peaks (LOS F/F)*
- #23 Palm Ave and Rainbow Dr *AM peak (LOS E)*
- **#26 9th St and Palm Ave (SR-75)** *AM & PM peaks (LOS F/E)*
- **#28 13th St and Palm Ave (SR-75)** *PM peak (LOS E)*

- **#30 Saturn Blvd /19th St and Palm Ave (SR-75)** *AM & PM peak (LOS F/F)*
- **#31 I-5 SB Exit Ramp and Palm Ave (SR-75)** *AM & PM peak (LOS E/F)*

Eight of the 17 intersections would have a significant impact due to implementation of Alternative 3 and are shown in **bold**. The intersection of Silver Strand Boulevard (SR-75) and Fiddler's Cove Driveway would be a new impact under Year 2040 two-CVN with Alternative 3 conditions. The other nine intersections would have a decrease in delay as a result of Alternative 3 or would have an increase in delay that does not meet the significance criteria and, therefore, would not be considered to have a significant impact. The results of the intersection analysis are contained in Table D-18 in Appendix D(1).

3.9.3 Unavoidable Adverse Environmental Effects

Construction traffic for each Alternative would create traffic impacts that would vary year to year and day to day depending on construction activity.

Alternative 3 has one unavoidable adverse environmental effect at the intersection of Orange Avenue (SR-75) and Fourth Street (SR-75).

All other significant impacts can be mitigated. Section 5.9 contains a full list of mitigation and improvement measures. The Navy will fund these off-site improvements through the Defense Access Road program.

3.9.4 Summary of Effects

The summary of effects for each of the Proposed Action alternatives with one, two, and three CVNs in port is illustrated in Table 3.9-17.

Table 3.9-17
Summary of Traffic and Circulation Effects

Alternative	Effects	Mitigation Measures/Impact Avoidance and Minimization Measures
No Action Alternative	Construction No significant impacts would occur at the study intersections. Year 2024 **1 CVN:** No significant impacts would occur at the study intersections. **2 CVNs:** No significant impacts would occur at the study intersections. **3 CVNs:** An analysis of three-CVN conditions was not performed; however, the staggered work hours required when three CVNs are in port results in conditions similar to or better than the results for two-CVN conditions. As two-CVN	Mitigation Measures: None Impact Avoidance and Minimization Measures: None

Alternative	Effects	Mitigation Measures/Impact Avoidance and Minimization Measures
	conditions have no significant impacts at the study intersections, it can be concluded that no significant impacts would occur at the study intersections while three CVNs are in port. Year 2040 The impacts for 2040 would be the same as for 2024.	
Alternative 1 – SSTC-South Bunker Demolition Alternative (Preferred Alternative)	Construction The number of study intersections that would have a significant impact during construction due to the addition of Alternative 1 for a "North only" scenario is shown in Table 3.9-7 and summarized as follows: • Year 2015, 6 locations • Year 2016, 6 locations • Year 2017, 7 locations • Year 2018, 8 locations • Year 2019, 12 locations • Year 2020, 12 locations • Year 2021, 12 locations • Year 2022, 12 locations • Year 2023, 12 locations The number of study intersections that would have a significant impact during construction due to the addition of Alternative 1 for a "Construction North, Operations South" scenario is shown in Table 3.9-8 and summarized as follows: • Year 2015, 6 locations • Year 2016, 6 locations • Year 2017, 9 locations • Year 2018, 10 locations • Year 2019, 14 locations • Year 2020, 16 locations • Year 2021, 16 locations • Year 2022, 14 locations • Year 2023, 14 locations Postconstruction Year 2024 **1 CVN:** Five of the study intersections would have a significant impact in Year 2024 due to the addition of Alternative 1: • Silver Strand Blvd (SR-75) & Tulagi Rd • Silver Strand Blvd (SR-75) & Rainbow Dr • 9th St & Palm Ave (SR-75) • 13th St & Palm Ave (SR-75) • Saturn Blvd/19th St & Palm Ave (SR-75) •	Construction Mitigation Measures: None Impact Avoidance and Minimization Measures: t-1: Accelerate implementation of new entry control point at SSTC-South. t-2: Include construction management in the design aspect of the Proposed Action. t-3: Coordinate construction activity with NBC representatives to monitor daily activity levels. t-4: Schedule heavy periods of vehicle activity during non-peak hours. t-5: Encourage carpooling and staggered work hours for construction workers. t-6: Notify public stakeholders of times where abnormal construction activity would occur. t-7: Work with Caltrans to establish appropriate traffic control management at the interim gate at the Hooper Boulevard entrance until the proposed Entry Control Point is fully constructed. Postconstruction Year 2024 Mitigation Measures: T-1: Modification of signal operations at Silver Strand Blvd (SR-75) & Tulagi Rd T-2: Modification of eastbound approach configuration at Silver Strand Blvd (SR-75) & Rainbow Drive T-3: Modification of northbound and southbound approach configurations at 9th Street & Palm Avenue (SR-75)

Alternative	Effects	Mitigation Measures/Impact Avoidance and Minimization Measures
	2 CVNs: Six of the study intersections would have a significant impact in Year 2024 due to the addition of Alternative 1: • Silver Strand Blvd (SR-75) & Tulagi Rd • Silver Strand Blvd (SR-75) & Rainbow Dr • 7th St & Palm Ave (SR-75) • 9th St & Palm Ave (SR-75) • 13th St & Palm Ave (SR-75) • Saturn Blvd/19th St & Palm Ave (SR-75) **3 CVNs:** An analysis of three-CVN conditions was not performed. With the staggered work hours required when three CVNs are in port, the results of the intersection analysis would be similar to or better than the results for two-CVN conditions. <u>Postconstruction Year 2040</u> **1 CVN:** Seven of the study intersections would have a significant impact in Year 2040 due to the addition of Alternative 1: • Silver Strand Blvd (SR-75) & Tulagi Rd • Silver Strand Blvd (SR-75) & Rainbow Dr • 7th Street & Palm Ave (SR-75) • 9th Street & Palm Ave (SR-75) • 13th Street & Palm Ave (SR-75) • Saturn Blvd/19th St & Palm Ave (SR-75) • I-5 SB Exit Ramp & Palm Ave (SR-75) **2 CVNs:** Eight of the study intersections would have a significant impact in Year 2040 due to the addition of Alternative 1: • Silver Strand Blvd (SR-75) & Tulagi Rd • Silver Strand Blvd (SR-75) & Fiddler's Cove Dwy • Silver Strand Blvd (SR-75) & Rainbow Dr • 7th Street & Palm Ave (SR-75) • 9th Street & Palm Ave (SR-75) • 13th Street & Palm Ave (SR-75) • Saturn Blvd/19th St & Palm Ave (SR-75) • I-5 SB Exit Ramp & Palm Ave (SR-75) **3 CVNs:** An analysis of three-CVN conditions was not performed. With the staggered work hours required when three CVNs are in port, the results of the intersection analysis would be similar to or better than the results for two-CVN conditions.	T-4: Removal of east leg pedestrian crossing at 13th Street & Palm Avenue (SR-75) T-5: Addition of a second westbound left-turn lane at Saturn Blvd/19th St & Palm Ave (SR-75) T-6: Modification of southbound approach configuration at 7th St & Palm Ave (SR-75) <u>Impact Avoidance and Minimization Measures:</u> t-1: Accelerate implementation of new entry control point at SSTC-South. t-8: Monitor traffic at the existing south entrance to SSTC-South located in Imperial Beach and incorporate measures as necessary to maintain traffic volumes less than or equal to the existing volume. t-9: Commit to providing MTS bus stops at the new Entry Control Point intersection. t-10: Form an internal Navy Traffic Advisory Committee to address traffic concerns. t-11: Prepare a Transportation Demand Management (TDM) Plan for Naval Base Coronado. This TDM Plan would consider the following topics: • Military Transportation Incentive Program (TIP) • SANDAG's iCommute program • Transit Network • Bicycle Network • Bikesharing programs • Pedestrian • Carpool/Vanpool • Intra-Base shuttle system • Carsharing programs • Parking supply limitations • Parking fees • Ferry service • Entry Control Point staffing • Signal timings • Work hours t-12: Continue to implement the goals of the 2014 Memorandum of Agreement between the Navy

Alternative	Effects	Mitigation Measures/Impact Avoidance and Minimization Measures
		and SANDAG to reduce drive-alone work trips. t-13: Continue to coordinate with SANDAG to understand and apply region-wide transportation demand management tools, such as the following SANDAG documents provided during the Draft EIS comment period: • Designing for Smart Growth, Creating Great Places in the San Diego Region • Planning and Designing for Pedestrians, Model Guidelines for the San Diego Region • Trip Generation for Smart Growth • Parking Strategies for Smart Growth • Regional Multimodal Transportation Analysis: Alternative Approaches for Preparing Multimodal Transportation Analysis in EIRs • Integrating Transportation Demand Management into the Planning and Development Process – A Reference for Cities • Riding to 2050, the San Diego Regional Bike Plan • Healthy Communities Atlas See Section 5.9 for more details on these measures. <u>Postconstruction Year 2040 Mitigation Measures:</u> T-1: Modification of signal operations at Silver Strand Blvd (SR-75) & Tulagi Rd. T-2: Modification of eastbound approach configuration at Silver Strand Blvd (SR-75) & Rainbow Drive. T-3: Modification of northbound and southbound approach configurations at 9th Street & Palm Avenue (SR-75). T-4: Removal of east leg pedestrian crossing at 13th Street & Palm Avenue (SR-75). T-5: Addition of a second

Alternative	Effects	Mitigation Measures/Impact Avoidance and Minimization Measures
		westbound left-turn lane at Saturn Blvd/19th St & Palm Ave (SR-75) T-6: Modification of southbound approach configuration at 7th St & Palm Ave (SR-75). T-7: Extend the southbound right-turn lanes at Palm Ave (SR-75) & I-5 SB Exit Ramp. <u>Impact Avoidance and Minimization Measures:</u> t-1: Accelerate implementation of new entry control point at SSTC-South. t-8: Monitor traffic at the existing entrance to SSTC-South located in Imperial Beach and incorporate measures as necessary to maintain traffic volumes less than or equal to the existing volume. t-9: Commit to providing MTS bus stops at the new Entry Control Point intersection. t-10: Form an internal Navy Traffic Advisory Committee to address traffic concerns. t-11: Prepare a TDM Plan for Naval Base Coronado. This TDM Plan would consider the following topics: • Military TIP SANDAG's iCommute program • Transit Network • Bicycle Network • Bikesharing programs • Pedestrian • Carpool/Vanpool • Intra-Base shuttle system • Carsharing programs • Parking supply limitations • Parking fees • Ferry service • Entry Control Point staffing • Signal timings • Work hours t-12: Continue to implement the goals of the 2014 Memorandum of Agreement between the Navy and SANDAG to reduce drive-alone work trips. t-13: Continue to coordinate with SANDAG to understand and

Alternative	Effects	Mitigation Measures/Impact Avoidance and Minimization Measures
		apply region-wide transportation demand management tools, such as the following SANDAG documents noted provided during the EIS comment period: • Designing for Smart Growth, Creating Great Places in the San Diego Region • Planning and Designing for Pedestrians, Model Guidelines for the San Diego Region • Trip Generation for Smart Growth • Parking Strategies for Smart Growth • Regional Multimodal Transportation Analysis: Alternative Approaches for Preparing Multimodal Transportation Analysis in EIRs • Integrating Transportation Demand Management into the Planning and Development Process – A Reference for Cities • Riding to 2050, the San Diego Regional Bike Plan • Healthy Communities Atlas See Section 5.9 for more details on these measures.
Alternative 2 – SSTC-South Bunker Retention Alternative	Construction The number of study intersections that would have a significant impact during construction due to the addition of Alternative 2 for a "North only" scenario is shown in Table 3.9-11. The number of study intersections that would have a significant impact during construction due to the addition of Alternative 2 for a "Construction North, Operations South" scenario is shown in Table 3.9-12. The number of intersections impacted by construction traffic for Alternative 2 would be the same as described above for Alternative 1, albeit to a more severe degree. Postconstruction Year 2024 The significant impacts at the study intersections for Alternative 2 would be identical to the findings for Alternative 1. Postconstruction Year 2040 The significant impacts at the study	Construction Mitigation Measures: None Impact Avoidance and Minimization Measures: The impact avoidance and minimization measures would be identical to those presented in Alternative 1. Postconstruction Years 2024 and 2040 Mitigation Measures: The mitigation measures would be identical to those presented in Alternative 1. Impact Avoidance and Minimization Measures: The impact avoidance and minimization measures would be

Alternative	Effects	Mitigation Measures/Impact Avoidance and Minimization Measures
	intersections for Alternative 2 would be identical to the findings for Alternative 1.	identical to those presented in Alternative 1.
Alternative 3 – Multi-Installation Alternative	<u>Construction</u> The number of study intersections that would have a significant impact during construction due to the addition of Alternative 3 for a "North only" scenario is shown in Table 3.9-13 and summarized as follows: • Year 2015, 6 locations • Year 2016, 6 locations • Year 2017, 9 locations • Year 2018, 10 locations • Year 2019, 14 locations • Year 2020, 16 locations • Year 2021, 15 locations • Year 2022, 13 locations • Year 2023, 14 locations The number of study intersections that would have a significant impact during construction due to the addition of Alternative 3 for a "Construction North, Operations South" scenario is shown in Table 3.9-14 and summarized as follows: • Year 2015, 6 locations • Year 2016, 6 locations • Year 2017, 9 locations • Year 2018, 10 locations • Year 2019, 14 locations • Year 2020, 16 locations • Year 2021, 17 locations • Year 2022, 17 locations • Year 2023, 13 locations <u>Postconstruction Year 2024</u> **1 CVN:** Five of the study intersections would have a significant impact in Year 2024 due to the addition of Alternative 3: • Silver Strand Blvd (SR-75) & Tulagi Rd • Silver Strand Blvd (SR-75) & Rainbow Dr • 9th St & Palm Ave (SR-75) • 13th St & Palm Ave (SR-75) • Saturn Blvd/19th St & Palm Ave (SR-75) **2 CVNs:** Six of the study intersections would have a significant impact in Year 2024 due to the addition of Alternative 3: • Orange Ave (SR-75) & Fourth St (SR-75) • Silver Strand Blvd (SR-75) & Tulagi Rd • Silver Strand Blvd (SR-75) & Rainbow Dr	<u>Construction</u> <u>Mitigation Measures:</u> None <u>Impact Avoidance and Minimization Measures:</u> The impact avoidance and minimization measures would be identical to those presented in Alternative 1. <u>Postconstruction Year 2024</u> <u>Mitigation Measures:</u> The mitigation measures would be identical to those presented in Alternative 1. <u>Impact Avoidance and Minimization Measures:</u> The impact avoidance and minimization measures would be identical to those presented in Alternative 1. <u>Postconstruction Year 2040</u> <u>Mitigation Measures:</u> The mitigation measures would be identical to those presented in Alternative 1. <u>Impact Avoidance and Minimization Measures:</u> The impact avoidance and minimization measures would be identical to those presented in Alternative 1.

Alternative	Effects	Mitigation Measures/Impact Avoidance and Minimization Measures
	• 9th St & Palm Ave (SR-75) • 13th St & Palm Ave (SR-75) • Saturn Blvd/19th St & Palm Ave (SR-75) **3 CVNs:** An analysis of three-CVN conditions was not performed. With the staggered work hours required when three CVNs are in port, the results of the intersection analysis would be similar to or better than the results for two-CVN conditions. <u>Postconstruction Year 2040</u> **1 CVN:** Seven of the study intersections would have a significant impact in Year 2040 due to the addition of Alternative 3: • Silver Strand Blvd (SR-75) & Tulagi Rd • Silver Strand Blvd (SR-75) & Rainbow Dr • 7th Street & Palm Ave (SR-75) • 9th Street & Palm Ave (SR-75) • 13th Street & Palm Ave (SR-75) • Saturn Blvd/19th St & Palm Ave (SR-75) • Palm Ave (SR-75) & I-5 SB Exit Ramp **2 CVNs:** Eight of the study intersections would have a significant impact due to the addition of Alternative 3: • Orange Ave (SR-75) & Fourth St (SR-75) • Silver Strand Blvd (SR-75) & Tulagi Rd • Silver Strand Blvd (SR-75) & Rainbow Dr • 7th Street & Palm Ave (SR-75) • 9th Street & Palm Ave (SR-75) • 13th Street & Palm Ave (SR-75) • Saturn Blvd/19th St & Palm Ave (SR-75) • Palm Ave (SR-75) & I-5 SB Exit Ramp **3 CVNs:** An analysis of three-CVN conditions was not performed. With the staggered work hours required when three CVNs are in port, the results of the intersection analysis would be similar to or better than the results for two-CVN conditions.	

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2

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3.10 SOCIOECONOMICS AND ENVIRONMENTAL JUSTICE

3.10.1 Affected Environment

This section includes a description of the socioeconomic baseline conditions and potential socioeconomic impacts that may occur if the Proposed Action were to be implemented. The term "socioeconomics" describes the basic attributes and resources associated with the human environment, with particular emphasis on population, housing, employment, and personal income. Typically, substantial changes in these fundamental socioeconomic indicators may influence related variables such as the provision of community services and utilities, and the cost and availability of housing. At NBC, the interaction of these indicators and their effect on other social and economic aspects are influenced by the differences between military land uses and nearby civilian communities. Where important for the analysis, these differences are highlighted in this section.

This section also evaluates environmental health and safety effects related to environmental justice (as required under EO 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations), and protection of children (as required under EO 13045, Protection of Children from Environmental Health Risks and Safety Risks). Environmental justice refers to an equitable spatial distribution of burdens and benefits of a Proposed Action with respect to minority populations and low-income populations, as well as the provision of opportunities for meaningful involvement in the Proposed Action decision-making process of all people regardless of race, color, national origin, or income.

3.10.1.1 Region of Influence

SSTC-South, the proposed location for the NBC Coastal Campus, is situated in a populated urban area and is accessible from the greater San Diego metropolitan area via the Coronado Bay Bridge (through Coronado) and SR-75 (through Imperial Beach). As presented in Section 3.1, Land Use and Recreation, the land use in the immediately surrounding areas consists of mixed residential and commercial, hotel/motel, commercial recreation, civic use, open space, and military land uses.

The ROI for socioeconomics includes the cities of Coronado and Imperial Beach, which include or are adjacent to SSTC-South, respectively, and the larger San Diego County area. The City of Imperial Beach is located to the south and east of SSTC-South and is geographically closer to downtown Tijuana, Mexico, than to downtown San Diego; as a result, the city has come to have numerous social and economic ties to Mexico. The developed portion of the City of Coronado, located to the north of SSTC-South, is often characterized as an affluent resort community, but its economy also focuses on services associated with NBC, government, and health care, among other sectors, in addition to tourism/hospitality. Where relevant to describe the potential for more localized impacts, this section also describes some demographic and socioeconomic indicators for those U.S. Census tracts surrounding SSTC-South.

The existing setting, employment, housing, population, and income of the ROI are presented in this section. Population data include the number and demographic characteristics of residents in the Proposed Action footprint. Housing data describe the number of housing units. Employment and income data include the size of the labor force, unemployment rates, and income per capita. Historic socioeconomic data were compiled from the 2000 Decennial Census, while current data were compiled from the 2010 U.S. Centennial Census, 2006–2010 U.S. Census Bureau American Community Survey, and information provided by SANDAG.

3.10.1.2 Regulatory Setting

Under NEPA, "economic" and "social" effects are specific environmental consequences to be examined (40 C.F.R. §§ 1502.16 and 1508.8). EO 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, directs Federal agencies "to make achieving environmental justice part of its mission by identifying and addressing… disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority population and low-income populations in the [U.S.]."

EO 13045, Protection of Children from Environmental Health Risks and Safety Risks, directs Federal agencies to, "make it a high priority to identify and assess environmental health risks and safety risks that may disproportionately affect children, and to ensure that its policies, programs, activities, and standards address disproportionate risks to children that result from environmental health risks or safety risks." Under the definitions provided in EO 13045, covered regulatory actions include those that may be "economically significant" (under EO 12866) and "concern an environmental health risk or safety risk that an agency has reason to believe may disproportionately affect children."

3.10.1.3 Existing Conditions

3.10.1.3.1 Regional Employment

The economy of the San Diego region is diversified; the leading employment sectors are business and professional services, retail trade, government, and hospitality. As of July 2012, the county average unemployment rate was 9.2 percent, which is below the state rate of 10.9 percent, but above the national rate of 8.6 percent (USBLS 2012). The estimated total number of jobs for San Diego County, the City of Imperial Beach, and the City of Coronado is shown in Table 3.10-1. The estimated total number of jobs for San Diego County is expected to increase 20 percent from 2008 to 2030 (SANDAG 2010; 2011). Employment in the City of Imperial Beach is expected to increase by 26 percent from 2008 to 2030[5] (SANDAG 2010; 2011).

Table 3.10-1
Estimated Total Employment: San Diego County, Imperial Beach, and Coronado

	2000[1]	2008[2]	2020[2]	2030[2]	Percent Change from 2008 to 2030
San Diego County	1,384,676	1,501,080	1,619,615	1,752,630	17%
City of Imperial Beach[3]	3,931	7,593	8,835	9,560	26%
City of Coronado[3]	29,913	27,994	33,093	33,198	19%

[1] SANDAG 2011
[2] SANDAG 2010
[3] Includes armed forces and civilian employment.

[5] SANDAG 2030 forecasts are based on 2008 estimates of the population that were more robust than the actual population in 2010; the forecasts were generated prior to the recession and are expected to be revised downward when SANDAG updates population projections based on the 2010 Census.

The City of Coronado is projected to have an employment increase of 19 percent from 2008 to 2030, forecasted primarily on the growth of special warfare-related armed forces employment. Civilian employment is expected to grow at a comparatively moderate pace (2 percent) due to the generally built-out character of the City of Coronado (SANDAG 2010; 2011).

NBC employs more than 36,000 military and civilian personnel, and is considered the largest workforce in San Diego County (U.S. Navy 2008a), although this exact figure may change drastically over the course of a year depending on the individual vessels in port and the size of each vessel's associated crew.

Existing regional annual economic output and employment information for San Diego County are summarized in Table 3.10-2. The data in this table are derived from the Impacts for Planning (IMPLAN) input-output model existing conditions data set, as the IMPLAN input-output model itself is used in the socioeconomic analysis in later subsections of this section.

Table 3.10-2
Annual Economic Output and Employment by Sector, San Diego County (2010)

Industry Sector	Economic Output		Employment	
	$ millions	Percent	Jobs	Percent
Agriculture, Forestry, Fishing, and Hunting	$1,646	0.6%	10,555	0.6%
Mining	$526	0.2%	3,311	0.2%
Utilities	$7,210	2.7%	7,541	0.4%
Construction	$13,421	5.0%	83,567	4.6%
Manufacturing	$37,177	13.8%	97,239	5.3%
Wholesale Trade	$8,752	3.2%	49,993	2.7%
Retail Trade	$12,253	4.5%	164,921	9.0%
Transportation and Warehousing	$2,897	1.1%	25,813	1.4%
Information	$13,402	5.0%	32,461	1.8%
Finance and Insurance	$21,068	7.8%	107,490	5.9%
Real Estate and Rental	$33,956	12.6%	97,887	5.3%
Professional, Scientific, and Technical Services	$26,783	9.9%	191,936	10.5%
Management	$3,300	1.2%	17,820	1.0%
Administrative and Waste Services	$6,661	2.5%	104,020	5.7%
Educational Services	$2,470	0.9%	36,287	2.0%
Health and Social Services	$14,544	5.4%	149,980	8.2%
Arts, Entertainment, and Recreation	$3,468	1.3%	45,567	2.5%
Accommodation and Food Services	$9,407	3.5%	137,403	7.5%
Other	$7,793	2.9%	107,783	5.9%
Government	$42,770	15.9%	360,568	19.7%
Total	$269,505	100.0%	1,832,144	100.0%

Source: Minnesota IMPLAN Group 2012

The government industry in San Diego County accounts for almost $14.5 billion in output (15.9 percent of the total area economic output) and approximately 361,000 workers (19.7 percent of all area employment). The construction industry in San Diego County accounts for almost $13.4 billion in output (5.0 percent of the total area economic output) and approximately 83,500 workers (4.6 percent of all area employment) (Minnesota IMPLAN 2012).

3.10.1.3.2 Regional Housing

According to the 2010 Census, housing stock in San Diego County was 1,164,786 units. As summarized in Table 3.10-3, the number of housing units for San Diego County is expected to increase 18 percent from 2010 to 2030 (SANDAG 2011). The City of Imperial Beach projects a smaller increase of 5 percent over the same 20-year time frame. The City of Coronado has a projected housing increase of only 0.2 percent. The relatively small increases for Imperial Beach and Coronado are attributed to the built-out character of these cities.

Table 3.10-3
Estimated Total Housing Units: San Diego County, Imperial Beach, and Coronado

	2000[1]	2010[2]	2020[3]	2030[3]	Percent Change from 2010 to 2030
San Diego County	1,040,149	1,164,786	1,262,488	1,369,807	18%
City of Imperial Beach	9,739	9,882	9,866	10,389	5%
City of Coronado	9,494	9,634	9,580	9,651	0.2%

[1] U.S. Census Bureau, Census 2000 Summary File 3
[2] U.S. Census Bureau, 2006-2010 American Community Survey
[3] SANDAG 2011, 2050 Regional Growth Forecast Final Series 12 - SANDAG 2030 forecasts are based on 2008 estimates of the population that were more robust than the actual population in 2010; the forecasts were generated prior to the recession and are expected to be revised downward when SANDAG updates population projections based on the 2010 Census.

NBC includes military housing for unaccompanied personnel and families. Unaccompanied personnel housing for officers is located on the southwest bayside section of NBC; unaccompanied enlisted housing is located on both the oceanside and bayside portions of the installation. Officer family housing is located in the southern bayside section of the installation; this housing area consists of single-family and duplex housing units, some of which front San Diego Bay. NSW student housing is located on the oceanside portion of the installation. Permanent personnel and transient students are billeted in housing on the bayside portion of the installation. An enlisted family housing area is located immediately south of Fiddler's Cove Marina; the housing area consists of duplex and townhome units.

3.10.1.3.3 Population Demographics

Table 3.10-4 presents ROI population counts for 2000 and 2010, and population projections for 2020 and 2030. The San Diego County population is projected to increase from 2010 to 2030 by 25 percent. Projections for the City of Coronado are below this growth rate, with future growth attributable to an anticipated rise in special warfare-related military personnel stationed at the installation, with those for the City of Imperial Beach also lower than the county projections. The City of Imperial Beach experienced a population contraction between 2000 and 2010, while the City of Coronado experienced only very slight growth. Based on the population recorded by the U.S. Census in 2010, projections indicate that the populations will increase by 15 percent and 9 percent, respectively.[6]

[6] SANDAG 2030 forecasts are based on 2008 estimates of the population that were more robust than the actual population in 2010; the forecast was generated prior to the recession and is expected to be revised downward when SANDAG updates population projections based on the 2010 Census.

Table 3.10-4
Estimated Population Growth: San Diego County, Imperial Beach, and Coronado

	2000[1]	2010[2]	2020[3]	2030[3]	Percent Change from 2010 to 2030
San Diego County	2,813,833	3,095,313	3,535,000	3,870,000	25%
City of Imperial Beach	26,992	26,324	28,233	30,216	15%
City of Coronado	24,100	24,697	26,370	26,811	9%

[1] U.S. Census Bureau, Census 2000 Summary File 1
[2] U.S. Census Bureau, Census 2010 Summary File 1
[3] SANDAG 2011, 2050 Regional Growth Forecast Final Series 12 - SANDAG 2030 forecasts are based on 2008 estimates of the population that were more robust than the actual population in 2010; the forecast was generated prior to the recession and is expected to be revised downward when SANDAG updates population projections based on the 2010 Census.

3.10.1.4 Environmental Justice

To identify possible disproportionately adverse environmental effects on minority populations and/or low-income populations, the following sections provide information on the race and ethnicity, economic status, and age of populations near the Proposed Action footprint. For the purposes of environmental justice, the study area includes the Proposed Action footprint per action alternative, as well as a travel corridor, which follows SR-75 from each alternative footprint to the I-5 junction (Figure 3.10-1).[7] Table 3.10-5 identifies those U.S. Census tracts associated with each action alternative.

Table 3.10-5
U.S. Census Tracts by Alternative

Alternatives 1 and 2	Alternative 3
99.02, 100.01, 100.10, 101.03, 101.04, 101.06, 101.07, 101.10, 101.12, 102.00, 103.00, 104.01, 104.02, 105.01, 105.02, 106.01, 126.00, 132.05, 132.06, 219.00	51.00, 54.00, 71.00, 99.01, 99.02, 100.01, 100.10, 101.03, 101.04, 101.06, 101.07, 101.10, 101.12, 102.00, 103.00, 104.01, 104.02, 105.01, 105.02, 106.01, 108.00, 109.00, 110.00, 111.00, 113.00, 126.00, 132.05, 132.06, 214.00, 216.00, 218.00, 219.00

3.10.1.4.1 Minority Populations

Table 3.10-6 provides the racial and ethnic composition for the cities, county, state, and nation using 2010 Census data. Data for all Census tracts within 1 mile of the action alternatives are also provided using 2010 Census data.[8] Figure 3.10-2 census tracts within 0.25 and 1 mile of the Proposed Action footprint containing minority populations of Environmental Justice concern Alternatives 1 and 2; Figure 3.10-3 shows similar information for Alternative 3. In general, the City of Imperial Beach has a higher

[7] Some materials from construction actions of each proposed alternative will need to be removed from their relative locations. To account for possible temporary impacts, a likely travel corridor has been included in the Proposed Action footprint for each alternative.
[8] Census Tract 99.02 is located within 1 mile of SSTC; however, it was excluded from the tract data set based on a low total population (two persons or less).

proportion of minorities than the City of Coronado, County of San Diego, and the State of California. The proportion of minorities within the City of Imperial Beach is nearly double that of the nation, while the City of Coronado has a lower proportion of minorities than the county, state, or nation. The City of Imperial Beach has a higher percentage of Hispanic residents than does the county, state, or nation.

3.10.1.4.2 Low-Income Populations

Table 3.10-7 depicts median household income and poverty levels for the cities of Coronado and Imperial Beach, San Diego County, the State of California, and the nation using 2010 Census data. Data for all Census tracts within 1 mile of the action alternatives are also provided using 2010 Census data. Figure 3.10-2 census tracts within 0.25 and 1 mile of the Proposed Action footprint containing low-income populations of Environmental Justice concern for Alternatives 1 and 2; Figure 3.10-3 shows similar information for Alternative 3. In general, Imperial Beach has a much lower median income and much higher percentage of persons below the poverty level than the City of Coronado, the County of San Diego, the State of California, and the nation. The City of Coronado generally has a substantially higher median income and lower percentage of persons below the poverty level than Imperial Beach, the County of San Diego, the State of California, and the nation.

3.10.1.4.3 Children in the Communities

Children are defined as individuals less than 18 years of age for the purpose of this assessment. Information to support this analysis is derived from the U.S. Census Bureau (2010 Census). The analysis identified locations with potentially high concentrations of children, such as schools, recreational areas for children, and residential areas within areas potentially exposed to Proposed Action impacts.

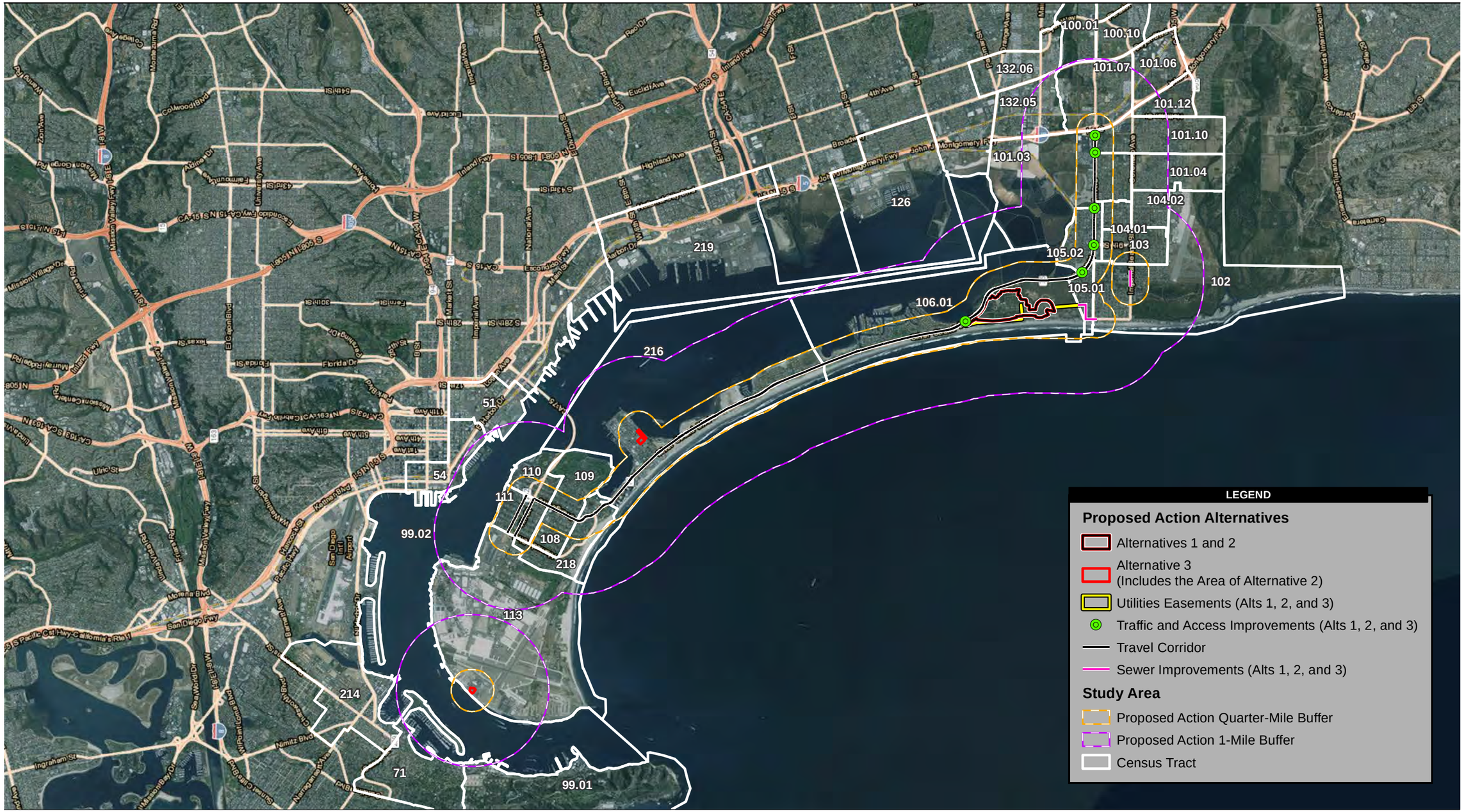
Population of Children

Table 3.10-8 depicts percentage of population less than 18 years of age and average family size for the cities, county, state, and nation, using 2010 Census. Data for all Census tracts within 1 mile of the action alternatives are also provided using 2010 Census data. The proportion of children in the City of Imperial Beach is similar to the County of San Diego, the State of California, and the nation, while the proportion of children in the City of Coronado is lower in comparison.

Child-Oriented Facilities

According to the California Department of Education, school, and school district websites, nearly 13,500 students are enrolled in elementary, middle, and high schools within 1 mile of the proposed SSTC-South project area and transportation corridor. Schools are as follows:

- Bayside Elementary (527 enrollment)
- Central Elementary School (580 enrollment)
- Christ Church Day School (105 enrollment)
- Coronado Village Elementary (917 enrollment)
- Coronado High School (1,130 enrollment)
- Coronado Middle School (795 enrollment)
- Dunamis Academy (2 enrollment)



Source: ESRI; U.S. Navy 2012

7,000 3,500 0 7,000 Feet

Scale: 1:84,000; 1 inch = 7,000 feet

Figure 3.10-1
Census Tracts within 1 mile of Proposed Action Alternatives

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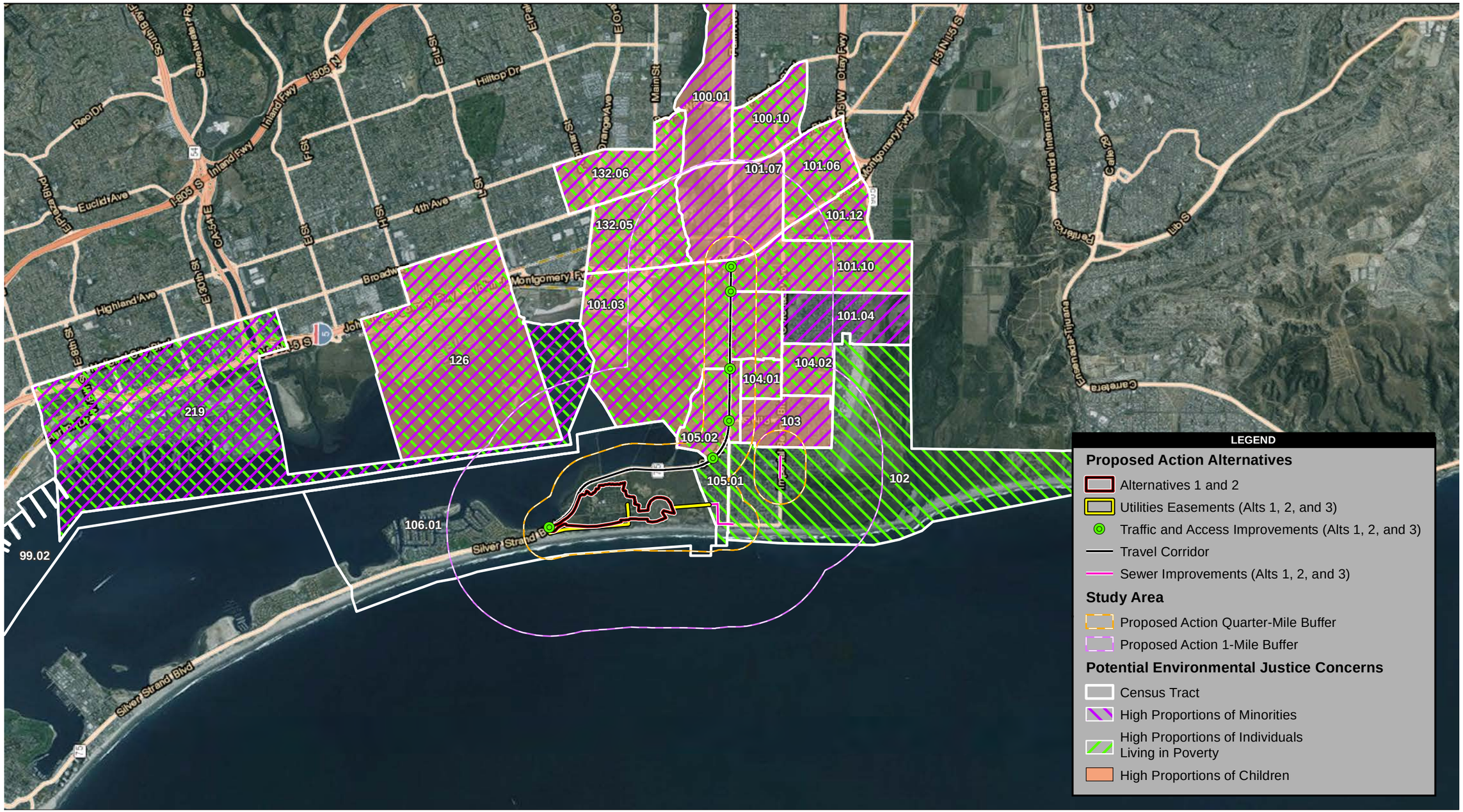

Source: ESRI; U.S. Navy 2012

5,000 2,500 0 5,000 Feet

Scale: 1:60,000; 1 inch = 5,000 feet

Figure 3.10-2

Alternatives 1 and 2 - Census Tracts within 0.25 and 1 mile of Proposed Action Footprint Containing Populations of Potential Environmental Justice Concerns

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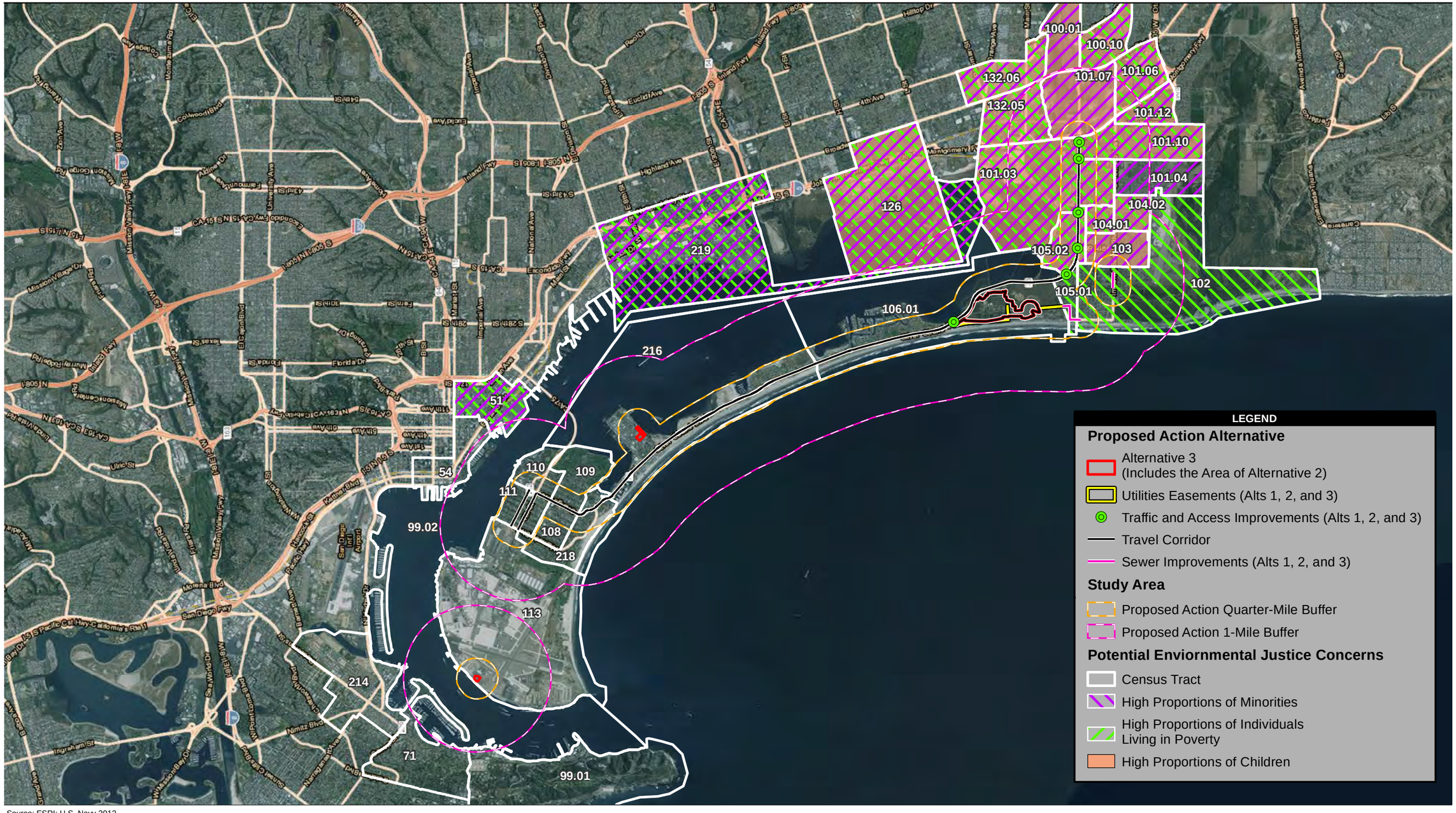

Source: ESRI; U.S. Navy 2012

7,000 3,500 0 7,000 Feet

Scale: 1:84,000; 1 inch = 7,000 feet

Figure 3.10-3

Alternative 3 - Census Tracts within 0.25 and 1 mile of Proposed Action Footprint Containing Populations of Potential Environmental Justice Concerns

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Table 3.10-6
Population, Race, and Ethnicity, 2010

Population and Race/Ethnicity	Census Tract Number											
	51.00	**54.00**	**71.00**	**99.01**	**100.01**	**100.10**	**101.03**	**101.04**	**101.06**	**101.07**	**101.10**	**101.12**
Total Population (persons)	7,140	7,435	5,029	626	4,097	5,510	5,569	3,217	5,200	6,498	7,298	4,764
Race/Ethnicity (percentage)												
White	57.5	79.7	92.7	79.1	45.4	48.9	59.1	59.8	58.4	55.0	45.2	51.6
Black or African American	16.4	5.3	1.1	10.7	4.3	2.4	3.7	2.7	1.9	3.1	3.5	5.3
American Indian and Alaskan Native	1.4	0.4	0.4	1.4	0.4	0.4	0.8	0.9	0.4	0.5	0.8	0.8
Asian	5.5	8.5	2.1	3.0	18.2	11.5	4.8	13.6	4.2	10.8	19.0	4.2
Native Hawaiian and Pacific Islander	0.3	0.2	0.1	0.2	1.0	0.3	0.1	0.5	0.3	0.2	0.7	0.3
Other race	14.0	2.9	1.3	2.7	24.0	31.9	26.5	15.6	31.3	25.5	25.1	33.5
Two or More races	4.9	3.0	2.2	2.9	6.6	4.5	4.9	6.8	3.6	4.8	5.8	4.4
Hispanic (any race)	33.3	11.4	5.9	13.9	62.8	72.7	75.3	46.9	86.9	72.1	63.5	83.0
Total Minority Population	58.0	28.1	11.4	30.0	87.8	87.6	85.0	67.0	93.3	87.6	88.1	93.5

Population and Race/Ethnicity	Census Tract Number											
	102.00	**103.00**	**104.01**	**104.02**	**105.01**	**105.02**	**106.01**	**108.00**	**109.00**	**110.00**	**111.00**	**113.00**
Total Population (persons)	6,800	4,507	2,458	5,558	1,433	5,514	2,127	2,390	1,750	2,799	3,698	6,520
Race/Ethnicity (percentage)												
White	72.9	63.0	59.0	51.3	73.4	59.6	87.8	91.7	94.4	86.3	89.7	61.0
Black or African American	4.8	3.2	4.8	4.9	1.5	5.2	1.2	0.7	0.5	1.9	0.9	20.7
American Indian and Alaskan Native	1.1	1.0	1.2	1.1	1.0	0.7	0.4	0.8	0.2	0.4	0.5	1.5
Asian	4.6	7.2	5.0	10.5	5.6	5.6	3.1	1.9	1.5	5.2	2.7	6.0
Native Hawaiian and Pacific Islander	0.7	0.9	0.5	0.9	0.2	0.7	0.0	0.1	0.1	0.3	0.1	0.8
Other race	9.9	17.5	24.3	24.3	11.9	21.3	4.4	1.3	0.7	2.9	2.5	5.0
Two or More races	5.9	7.2	5.2	7.0	6.4	7.0	3.2	3.4	2.5	3.0	3.8	5.0
Hispanic (any race)	33.7	46.9	62.6	58.0	32.1	58.5	20.8	8.6	8.7	11.0	11.6	17.3
Total Minority Population	47.4	61.9	74.9	77.9	43.4	72.2	27.9	14.9	13.0	21.4	18.5	47.5

Population and Race/Ethnicity	Census Tract Number							City of Imperial Beach	City of Coronado	San Diego County	State of California	USA
	126.00	**132.05**	**132.06**	**214.00**	**216.00**	**218.00**	**219.00**					
Total Population (persons)	5,047	2,381	6,544	7,225	3,391	2,022	6,816	26,324	24,697	3,095,313	37,253,956	308,745,538
Race/Ethnicity (percentage)												
White	55.3	58.0	58.0	76.3	81.7	93.4	55.6	62.6	81.3	64.0	57.6	72.4
Black or African American	3.5	3.6	2.8	5.2	5.3	0.4	14.2	4.4	6.8	5.1	6.2	12.6
American Indian and Alaskan Native	1.2	1.0	0.7	0.8	0.8	0.5	1.7	1.0	0.8	0.9	1.0	0.9
Asian	4.0	3.1	4.1	5.3	3.0	2.5	8.5	6.6	3.7	10.9	13.0	4.8
Native Hawaiian and Pacific Islander	0.5	0.3	0.2	0.5	0.9	0.3	0.6	0.7	0.4	0.5	0.4	0.2
Other race	30.9	31.1	30.1	6.1	3.3	0.9	14.3	18.1	3.1	13.6	17.0	6.2
Two or More races	4.6	2.9	4.0	5.9	5.1	2.0	5.1	6.6	3.9	5.1	4.9	2.9
Hispanic (any race)	75.6	85.7	78.7	16.9	15.8	7.5	36.8	49.0	13.6	32.0	37.6	16.3
Total Minority Population	84.7	91.9	86.3	32.0	28.5	12.8	62.6	64.0	27.5	51.5	59.9	36.3

Source: U.S. Census Bureau 2010, Summary File 1 Note: Total Minority = all except non-Hispanic White individuals.

Table 3.10-7
Median Household Income and Low-Income Populations, 2010

Indicator	Census Tract Number											
	51.00	54.00	71.00	99.01	100.01	100.10	101.03	101.04	101.06	101.07	101.10	101.12
Total Population	5,128	6,986	4,348	37	3,741	5,388	5,816	3,258	4,985	6,028	7,234	5,596
Median Household Income	$31,591	$70,335	$117,563	$147,625	$73,866	$43,634	$39,667	$58,413	$41,265	$51,250	$49,692	$32,004
% of Persons below Poverty Level	42.1%	11.3%	7.5%	0.0%	4.6%	20.7%	12.4%	8.8%	20.2%	7.5%	11.7%	26.4%

Indicator	Census Tract Number											
	102.00	103.00	104.01	104.02	105.01	105.02	106.01	108.00	109.00	110.00	111.00	113.00
Total Population	6,988	4,292	2,716	5,881	1,405	4,882	2,239	2,293	1,708	2,622	3,276	34
Median Household Income	$49,660	$59,961	$44,694	$38,079	$48,906	$36,462	$118,846	$84,464	$109,531	$71,071	$87,976	$127,639
% of Persons below Poverty Level	24.3%	6.7%	25.3%	23.8%	24.0%	14.4%	0.8%	11.5%	2.5%	11.1%	3.1%	0.0%

Indicator	Census Tract Number							City of Imperial Beach	City of Coronado	San Diego County	State of California	USA
	126.00	132.05	132.06	214.00	216.00	218.00	219.00					
Total Population	4,712	1,854	5,942	5,979	1,652	1,918	1,992	26,324	18,912	3,095,313	37,253,956	308,745,538
Median Household Income	$43,199	$36,679	$28,175	$63,300	$61,477	$99,531	$24,575	$45,418	$91,071	$63,069	$60,883	$51,914
% of Persons below Poverty Level	22.0%	19.5%	28.6%	11.0%	8.3%	5.3%	23.1%	19.4%	5.0%	11.7%	13.2%	13.3%

Source: U.S. Census Bureau 2010, 2006-2010 American Community Survey 5 Year Estimates

Table 3.10-8
Total Population and Percentage of Children, 2010

Indicator	Census Tract Number											
	51.00	54.00	71.00	99.01	100.01	100.10	101.03	101.04	101.06	101.07	101.10	101.12
Total Population	7,140	7,435	5,029	626	4,097	5,510	5,569	3,217	5,200	6,498	7,298	4,764
Population less than 18 Years of Age	13.3%	3.9%	13.5%	1.6%	25.3%	26.0%	28.2%	22.1%	27.8%	26.2%	29.3%	33.9%

Indicator	Census Tract Number											
	102.00	103.00	104.01	104.02	105.01	105.02	106.01	108.00	109.00	110.00	111.00	113.00
Total Population	6,800	4,507	2,458	5,558	1,433	5,514	2,127	2,390	1,750	2,799	3,698	6,520
Population less than 18 Years of Age	19.9%	25.2%	29.6%	28.7%	20.1%	28.7%	19.7%	21.8%	22.0%	17.5%	23.3%	0.6%

Indicator	Census Tract Number							City of Imperial Beach	City of Coronado	San Diego County	State of California	USA
	126.00	132.05	132.06	214.00	216.00	218.00	219.00					
Total Population	5,047	2,381	6,544	7,225	3,391	2,022	6,816	26,324	24,697	3,095,313	37,253,956	308,745,538
Population less than 18 Years of Age	28.7%	32.3%	25.8%	21.7%	20.9%	21.7%	7.3%	25.4%	15.6%	23.4%	25.0%	24.0%

Source: U.S. Census Bureau 2010, Summary File 1

- Early Childhood Development Center (enrollment unknown)
- Emory Elementary (648 enrollment)
- Imperial Beach Charter School (980 enrollment)
- Mar Vista Middle School (1,011 enrollment)
- Mar Vista Senior High School (1,732 enrollment)
- Nestor Language Academy Charter School (914 enrollment)
- Ocean View Christian Academy (300 enrollment)
- Oneonta Elementary School (539 enrollment)
- Palm Academy for Learning (14 enrollment)
- Sacred Heart Parish School (245 enrollment)
- Silver Strand Elementary (314 enrollment)
- St. Charles Elementary School (287 enrollment)
- St. James Lutheran School (37 enrollment)
- Sunnyslope Elementary (559 enrollment)
- Sweetwater Community Day (25 enrollment)
- Teo Mendoza School (999 enrollment)
- VIP Village Preschool (640 enrollment)
- West View Early Learning Center (146 enrollment)

Figures 3.10-4 and 3.10-5 show schools within 0.25 and 1 mile of the Proposed Action footprints, by alternative.

Silver Strand Elementary School is operated by the Coronado Unified School District for students living on Silver Strand in Navy housing and Coronado residential areas.

Recreational areas in the ROI include nature preserves, parks, parkways, beaches, playgrounds, and community gardens. Outdoor recreation entails programs, activities, and opportunities dependent on the natural environment. Examples include fishing, picnicking, surfing, bird-watching, hiking, interpretive trails, and camping areas. Figures 3.10-6 and 3.10-7 depict the many outdoor recreational opportunities within 0.25 and 1 mile of the SSTC Proposed Action footprint, by alternative.

One of the main recreational opportunities for children in the ROI is YMCA Camp Surf, located in the southwest corner of SSTC-South. The YMCA operates approximately 12, one-week camp sessions annually for children between the ages of 7 and 16 on 45 acres of land under lease from the Navy. This camp, located on ocean frontage, consists of housing units, mobile homes, and recreational vehicles associated with the camp. According to the YMCA, approximately 10,000 children use the surf camp each year. While some of the children are day campers, the majority are on-site 24 hours per day during camp sessions.

3.10.2 Environmental Consequences

This section describes potential socioeconomics impacts that may result from implementation of the proposed NBC Coastal Campus. The analysis evaluates those activities that have the potential to affect socioeconomic indicators such as population, employment, income, and housing. Environmental justice is addressed at the end of this resource section.

3.10.2.1 Approach to Analysis

For the purposes of this socioeconomic assessment, employment and economic outputs that would be generated during construction were compared with the socioeconomic resources of San Diego County described in Section 3.10.1. To quantify Proposed-Action-related outputs, the IMPLAN economic modeling tool was used. IMPLAN uses region-specific input/output accounts by industry to estimate primary and secondary impacts of economic stimuli. Both primary and secondary impacts can occur in the form of employment, income, output, and taxes. Secondary impacts also include (1) indirect impacts that occur due to the purchase of goods and services by firms involved with Proposed Action construction and operation, and (2) induced impacts that result from associated household spending.

The multipliers for the impact analyses were derived by editing the specific industry data for the study area in the IMPLAN input/output relationships to represent the direct economic impacts associated with the Proposed Action (e.g., estimated annual construction cost and annual operation cost). IMPLAN sector 36, "Construction of other new non-residential structures," is the IMPLAN sector recommended by the software to correspond most closely to the Proposed Action alternatives. The secondary impact analysis relies specifically on the use of Social Accounting Matrices multipliers in the induced impact quantification, as Social Accounting Matrices multipliers account for social security and income tax leakage, institutional savings, and commuting. All figures are in 2012 dollars.

3.10.2.2 No Action Alternative

Impacts

Under the No Action Alternative, existing land uses and facilities at NBC would be maintained. No Proposed Action construction would occur, and current programmed levels of use (type, tempo, location), including requirements for planned force growth, would continue consistent with baseline conditions. The No Action Alternative would have no significant socioeconomic impacts. The No Action Alternative would not result in disproportionately high and adverse human health and environmental effects on minority populations and low-income populations. The No Action Alternative would not result in environmental health risks and safety risks that disproportionately affect children.

Mitigation Measures and Impact Avoidance and Minimization Measures

No mitigation measures or impact avoidance and minimization measures are proposed.

3.10.2.3 Alternative 1 – SSTC-South Bunker Demolition Alternative (Preferred Alternative)

Impacts

Regional Employment and Economic Impacts

For all work included in Alternative 1, it is assumed that the design and construction work on the Proposed Action features would be by civilian firms that would largely draw their employees from a labor pool within San Diego County. Given the nature of the construction, no increase in population would occur from workers relocating to SSTC-South or NBC, and no increase in demand for local housing is anticipated to occur. Most of the construction work would be performed by workers residing within

Source: ESRI; U.S. Navy 2012

5,000 2,500 0 5,000 Feet

Scale: 1:60,000; 1 inch = 5,000 feet

Figure 3.10-4
Alternatives 1 and 2 - Schools
within 0.25 and 1 mile of Proposed Action Footprint

Path: P:\2011\6023620?\06GIS\6.3_Layout\EIS\November_2014\Fig3_10_4_Alt1_2_Schools.mxd, 11/24/2014, SorensenJ

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Source: ESRI; U.S. Navy 2012

6,500 3,250 0 6,500 Feet

Scale: 1:78,000; 1 inch = 6,500 feet

Figure 3.10-5
Alternative 3 - Schools
within 0.25 and 1 mile of Proposed Action Footprint

Path: P:\2011\60236207\06GIS\6.3_Layout\EIS\November_2014\Fig3_10_5_Alt3_Schools.mxd, 11/24/2014, SorensenJ

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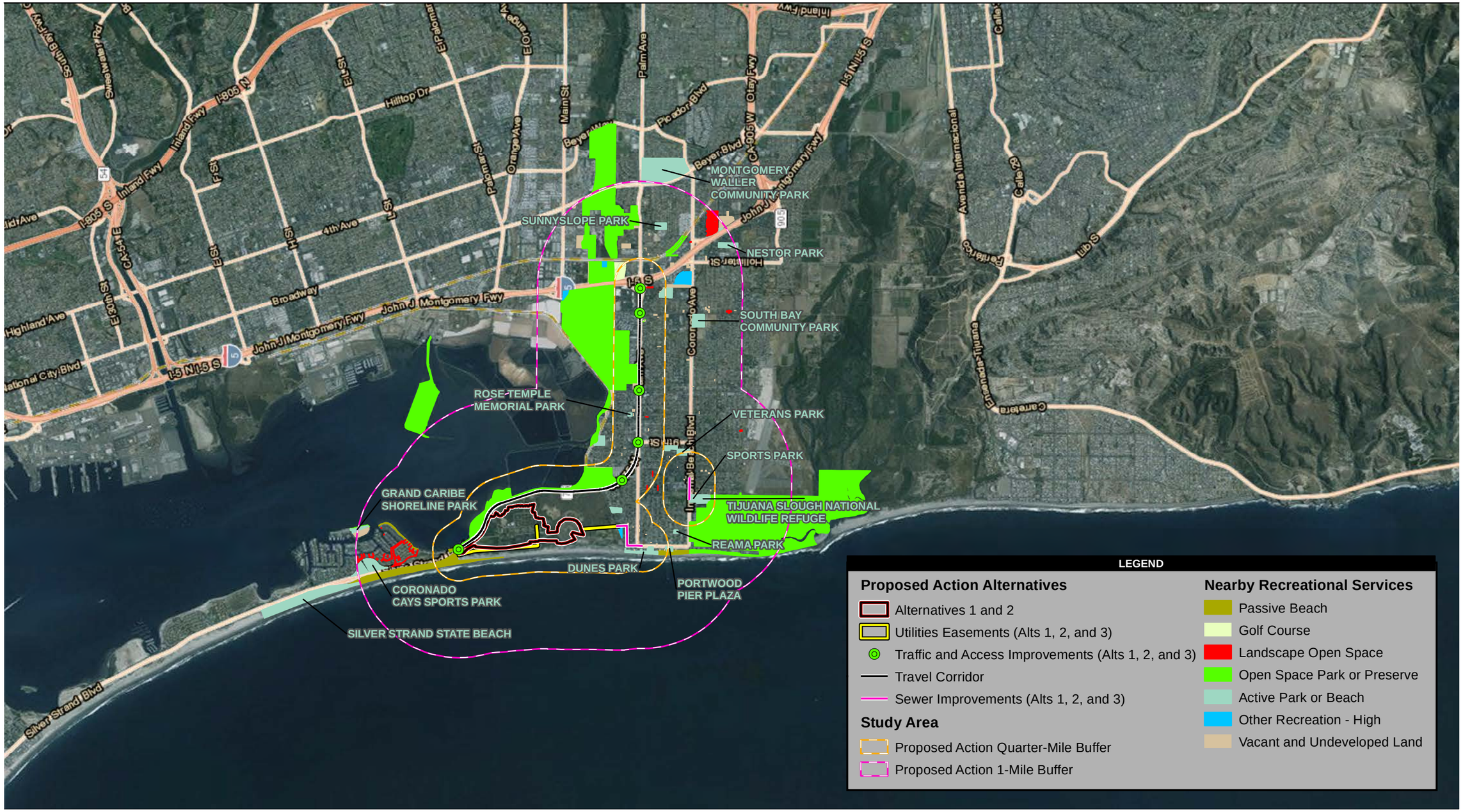

Source: ESRI; U.S. Navy 2012

5,000 2,500 0 5,000 Feet

Scale: 1:60,000; 1 inch = 5,000 feet

Figure 3.10-6
Alternatives 1 and 2 - Recreation Opportunities within 0.25 and 1 mile of Proposed Action Footprint

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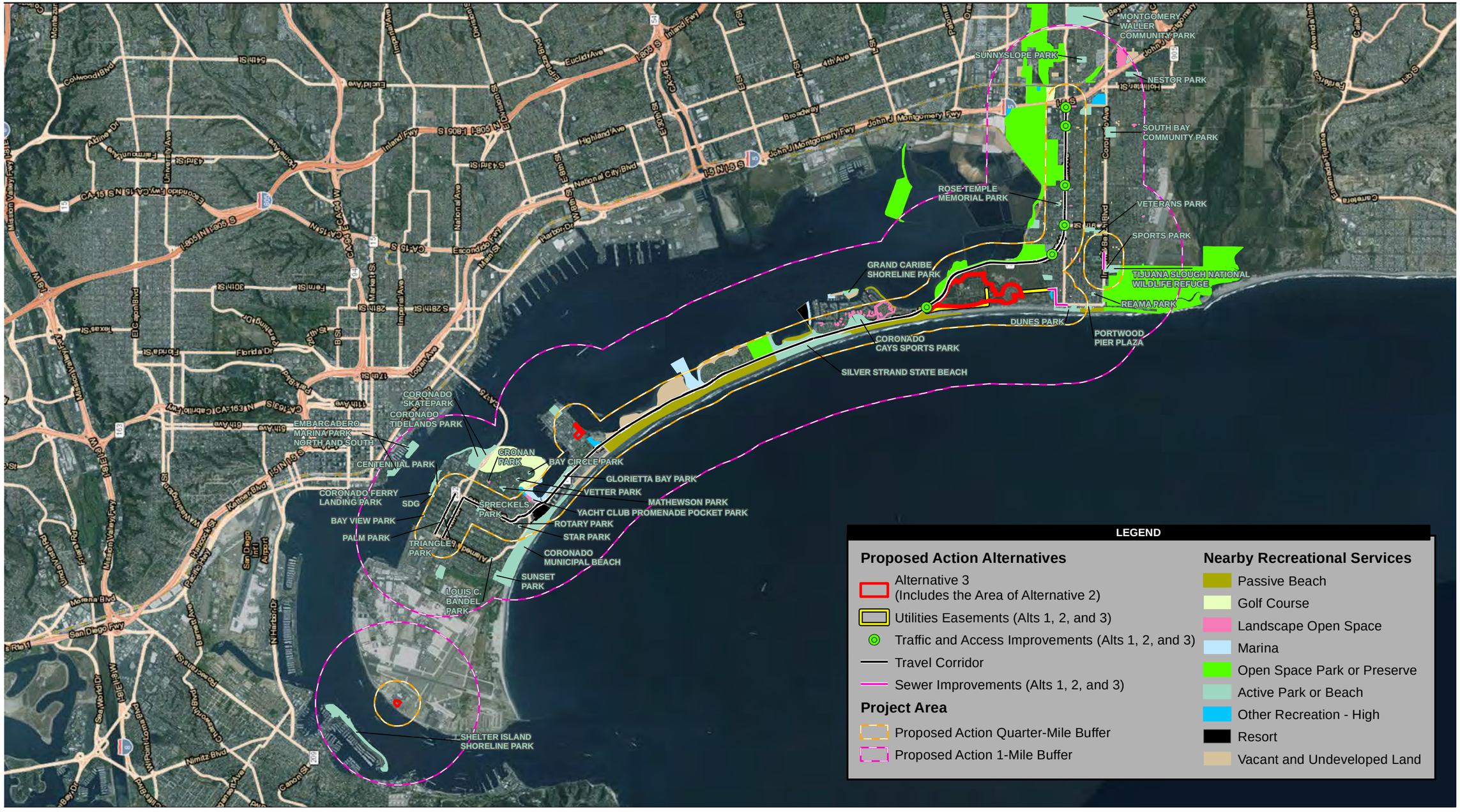

Source: ESRI; U.S. Navy 2012

6,500 3,250 0 6,500 Feet

Scale: 1:78,000; 1 inch = 6,500 feet

Figure 3.10-7
Alternative 3 - Recreation Opportunities within 0.25 and 1 mile of Proposed Action Footprint

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commuting distance of SSTC-South, such that the demand for temporary construction worker housing would be minimal. Some incidental construction-related employment opportunities may arise for military dependents, but the socioeconomic impact of these opportunities would be negligible.

Total funding for all individual MILCONs is estimated to be about $700 million, with funding running from fiscal year 2015 to fiscal year 2024. For the purposes of economic modeling, it was assumed that (1) all funding would be spent on construction, (2) construction would occur between fiscal year 2015 and fiscal year 2024, and (3) annual construction expenditures would remain even across all years of the construction period. As both the level of funding and the timing of construction are subject to revision, the purpose of the modeling is to facilitate an order-of-magnitude economic output and employment impact assessment rather than an exact projection of economic output and employment levels.

A summary of the modeling of the economic activity related to construction in San Diego County is presented in Table 3.10-9. These results combine direct, indirect, and induced economic output and employment results to give an overall economic output and employment figure. Existing regional economic output and employment baseline information by sector are also provided to allow a comparison of impacts to existing conditions.

As shown in the table, economic output would be about $125 million per year over the course of construction, and employment would be about 839 jobs per year. The majority of the total Proposed Action-related economic output would consist of direct output from the construction sector, and the majority of total employment would consist of direct employment in the construction industry. Some highly localized economic activity would likely occur with small-scale purchases of goods and services by construction companies and their workers, resulting in a minor beneficial impact to the local economy.

Localized Socioeconomic Impacts

During construction, localized, temporary socioeconomic impacts could potentially accrue due to the proximity of sensitive receptors (such as residential areas and school or other child-oriented facilities, among others) to the Alternative 1 footprint. These temporary socioeconomic impacts would be largely related to the demolition of Building 99 and the removal of debris. As stated above, the debris removal activities would result in approximately 5,400 (round trip) trips from SSTC-South to I-5 via SR-75, with the majority of debris removal occurring over a 2- to 3-month period during 2015–2016. These activities could create additional construction noise, a temporary degradation of air quality, and a decrease in traffic LOS and/or accessibility. Some businesses along SR-75 may experience temporary localized impacts due to decreased LOS, but access would not be closed and the overall impact would not be considered significant. Construction activities are planned to occur primarily between the hours of 7:00 AM and 5:00 PM on weekdays; however, some debris removal may occur during the weekends and/or nighttime hours so as to avoid peak traffic hours in Imperial Beach and along I-5. While these activities would have the benefit of minimizing LOS impacts during peak traffic hours, these activities may create temporary noise, air quality, and traffic impacts during nights and weekends. These impacts may be considered substantial for some nearby sensitive receptors. However, these impacts are considered temporary (with the majority of trips occurring within 2 to 3 months) and not significant.

With regard to operations, implementation of the NBC Coastal Campus would not result in an increase in permanently stationed personnel or employees at SSTC-South. Despite an increase in support facilities, these personnel are already at NBC. Therefore, existing regional population and associated housing

Table 3.10-9
Combined Economic Output and Employment by Industry Sector
for the San Diego County Region

Industry Sector	Economic Output ($ millions)			Employment (number of FTEs)		
	Existing Output	Average Annual Project Impact	Percentage of Existing	Existing Employment	Average Annual Project Impact	Percentage of Existing
Agriculture, Forestry, Fishing, and Hunting	$1,646	$0.1	0.0%	10,555	1.0	0.0%
Mining	$526	$0.3	0.0%	3,311	1.5	0.0%
Utilities	$7,210	$1.1	0.0%	7,541	1.3	0.0%
Construction	$13,421	$70.4	0.5%	83,567	435.2	0.5%
Manufacturing	$37,177	$3.6	0.0%	97,239	12.1	0.0%
Wholesale Trade	$8,752	$2.3	0.0%	49,993	13.0	0.0%
Retail Trade	$12,253	$4.3	0.0%	164,921	57.7	0.0%
Transportation and Warehousing	$2,897	$1.0	0.0%	25,813	9.1	0.0%
Information	$13,402	$3.0	0.0%	32,461	7.1	0.0%
Finance and Insurance	$21,068	$6.6	0.0%	107,490	33.2	0.0%
Real Estate and Rental	$33,956	$9.3	0.0%	97,887	22.6	0.0%
Professional, Scientific, and Technical Services	$26,783	$8.5	0.0%	191,936	67.2	0.0%
Management	$3,300	$0.5	0.0%	17,820	2.9	0.0%
Administrative and Waste Services	$6,661	$2.0	0.0%	104,020	31.3	0.0%
Educational Services	$2,470	$0.7	0.0%	36,287	10.1	0.0%
Health and Social Services	$14,544	$4.4	0.0%	149,980	45.1	0.0%
Arts, Entertainment, and Recreation	$3,468	$0.7	0.0%	45,567	10.8	0.0%
Accommodation and Food Services	$9,407	$2.1	0.0%	137,403	33.8	0.0%
Other	$7,793	$2.8	0.0%	107,783	38.4	0.0%
Government	$42,770	$1.0	0.0%	360,568	5.1	0.0%
Total	$269,505	$124.8	0.0%	1,832,144	838.5	0.0%

FTE = Full-time Equivalent position
Source: Minnesota IMPLAN Group 2012

impacts, employment rates, and regional economy would largely remain unchanged as a result of implementation of the NBC Coastal Campus. This alternative would have no significant socioeconomic impacts.

Environmental Justice

Census tracts 100.01, 100.10, 101.03, 101.04, 101.06, 101.07, 101.10, 101.12, 103.00, 104.01, 104.02, 105.02, 126.00, 132.05, 132.06, and 219.00 all have proportions of minority residents higher than 50.0 percent. As a result, the area affected by Alternative 1 has a number of minority populations of concern with respect to environmental justice. In terms of low-income status (as defined by percentage of persons living below poverty), the City of Imperial Beach has a proportion of 19.4 percent, which is higher than the proportion seen for San Diego County as a whole (11.7 percent). Specifically, Census tracts 100.10, 101.03, 101.06, 101.10, 101.12, 102.00, 104.01, 104.02, 105.01, 105.02, 126.00, 132.05, 132.06, and 219.00 all have proportions of low-income residents higher than or equal to San Diego County as a whole. As a result, the area affected by Alternative 1 would also have a low-income population of concern with respect to environmental justice.

Construction traffic analyses suggest that significant and unmitigable traffic impacts may occur during the construction phase of the project. These would likely occur along the transportation route between the Proposed Action footprint and I-5 in Imperial Beach and would be temporary in nature. The U.S. census tracts along this corridor all contain populations with high proportions of minority and/or low-income residents. Thus, construction traffic impacts for Alternative 1 would disproportionately accrue to minority populations and/or low-income populations. With the implementation of impact avoidance and minimization measures, however, these construction traffic impacts for Alternative 1 would not be high and adverse. Alternative 1 would not result in disproportionately high and adverse human health and environmental effects on minority populations and low-income populations.

Protection of Children

Census tracts 101.01, 100.10, 101.03, 101.06, 101.07, 101.10, 101.12, 103.00, 104.01, 104.02, 105.02, 126.00, 132.05, and 132.06 all have proportions of children (individuals under the age of 18) greater than or equal to San Diego County as a whole. Schools located within 1 mile of Alternative 1 are Bayside Elementary, Ocean View Christian Academy, Sunnyslope Elementary, Teofilo Mendoza, Nestor Language Academy Charter School, Emory Elementary, Mar Vista Middle School, St. Charles Elementary, Oneonta Elementary, Central Elementary, VIP Village Preschool, St. James Lutheran, Imperial Beach Charter, Mar Vista High School, and West View Learning Center. Recreational facilities within 1 mile of Alternative 1 are Sunnyslope Park, Montgomery Waller Community Park, Nestor Park, South Bay Community Park, Veterans Park, Sports Park, Tijuana Slough National Wildlife Refuge, Rema Park, Portwood Pier Plaza, Dunes Park, Coronado Sports Park, Silver Strand State Beach, Grand Caribe Shoreline Park, and Rose and Temple Memorial Park.

Implementation of Alternative 1 would increase facilities located at SSTC-South, which shares a boundary with YMCA Camp Surf. This camp serves a large population of children. However, Alternative 1 consolidates development of facilities primarily to the northern portion of SSTC-South, away from the population of children served by the camp.

Construction traffic analyses suggest that significant and unmitigable traffic impacts may occur during the construction phase of the project. These would likely occur along the transportation route between the Proposed Action footprint and I-5 in Imperial Beach and would be temporary in nature. The majority of U.S. census tracts along the transportation corridor contain a disproportionately large percentage of children. With the implementation of impact avoidance and minimization measures, however, these construction traffic impacts for Alternative 1 would not present disproportionate risks to children. Alternative 1 would not result in environmental health risks and safety risks that disproportionately affect children.

Mitigation Measures and Impact Avoidance and Minimization Measures

Mitigation Measures

No mitigation measures are proposed.

Impact Avoidance and Minimization Measures

Alternative 1 would result in potential environmental justice and child health and safety impacts associated with construction traffic impacts along the transportation route between the Proposed Action footprint and I-5 in Imperial Beach. Construction traffic analyses suggest these traffic impacts would be significant and unmitigable, and would occur almost entirely in areas identified as having populations of environmental justice and child health and safety concern. In addition to those mitigation, avoidance, and minimization measures recommended in Section 5.9, additional minimization measures would include:

- Pedestrian routes along the transportation corridor would be maintained or temporary alternate routes provided and clearly marked during the construction of traffic and access improvements and during the Proposed Action construction phase when traffic would be heavier than under normal conditions.
- Residents in the affected census tracts would be notified of increased construction traffic via direct mail and road signage.
- Emergency public services and other appropriate law enforcement agencies would be notified of increased traffic and how construction traffic may affect emergency response times.

3.10.2.4 Alternative 2 – SSTC-South Bunker Retention Alternative

Impacts

Regional Employment and Economic Impacts

For all work included in Alternative 2, the same employment mix with regard to design and construction work assumed for Alternative 1 would likely occur. Given the nature of the construction, no increase in population would occur from workers relocating, and no increase in demand for local housing is anticipated to occur. The total funding and construction timeline for Alternative 2 would be the same as assumed under Alternative 1; regional employment and economic impacts would be similar to Alternative 1 (see Table 3.10-9). The majority of the total Proposed Action-related economic output would consist of

direct output from the construction sector, and the majority of total employment would consist of direct employment in the construction industry. Some highly localized economic activity would likely occur with small-scale purchases of goods and services by construction companies and their workers, resulting in a minor beneficial impact to the local economy.

Localized Socioeconomic Impacts

For all work included in Alternative 2, localized, temporary socioeconomic impacts could potentially accrue similarly to Alternative 1. Since Building 99 would not be demolished, however, localized and temporary impacts associated with debris removal would not occur. Existing regional population and associated housing impacts, employment rates, and regional economy would remain largely unchanged as a result of the implementation of the NBC Coastal Campus. This alternative would have no significant socioeconomic impacts.

Environmental Justice

Construction traffic analyses suggest that significant and unmitigable traffic impacts may occur during the construction phase of the project. As under Alternative 1, these would likely occur along the transportation route between the Proposed Action footprint and I-5 in Imperial Beach and would be temporary in nature. The U.S. census tracts along this corridor all contain populations with high proportions of minority and/or low-income residents. Thus, construction traffic impacts for Alternative 2 would disproportionately accrue to minority populations and/or low-income populations. With the implementation of impact avoidance and minimization measures, however, these construction traffic impacts for Alternative 2 would not be high and adverse. Alternative 2 would not result in disproportionately high and adverse human health and environmental effects on minority populations and low-income populations.

Protection of Children

Construction traffic analyses suggest that significant and unmitigable traffic impacts may occur during the construction phase of the project. As under Alternative 1, these would likely occur along the transportation route between the Proposed Action footprint and I-5 in Imperial Beach and would be temporary in nature. The majority of U.S. census tracts along the transportation corridor contain a disproportionately large percentage of children. With the implementation of impact avoidance and minimization measures, however, these construction traffic impacts for Alternative 2 would not present disproportionate risks to children. Alternative 2 would not result in environmental health risks and safety risks that disproportionately affect children.

Mitigation Measures and Impact Avoidance and Minimization Measures

Mitigation Measures

No mitigation measures are proposed.

Impact Avoidance and Minimization Measures

The impact avoidance and minimization measures for Alternative 2 would be the same as proposed for Alternative 1.

3.10.2.5 Alternative 3 – Multi-Installation Alternative

Impacts

Regional Employment and Economic Impacts

For all work included in Alternative 3, the same employment mix with regard to design and construction work assumed for Alternative 1 would likely occur. Given the nature of the construction, no increase in population would occur from workers relocating, and no increase in demand for local housing is anticipated to occur. The total funding and construction timeline for Alternative 3 would be the same as assumed under Alternative 1, despite construction occurring at three different locations; regional employment and economic impacts would be similar to Alternative 1 (see Table 3.10-9). The majority of the total Proposed Action-related economic output would consist of direct output from the construction sector, and the majority of total employment would consist of direct employment in the construction industry. Some highly localized economic activity would likely occur with small-scale purchases of goods and services by construction companies and their workers, resulting in a minor beneficial impact to the local economy.

Localized Socioeconomic Impacts

For all work included in Alternative 3, localized, temporary socioeconomic impacts could potentially accrue similarly to Alternative 2. Existing regional population and associated housing impacts, employment rates, and regional economy would remain largely unchanged as a result of the implementation of the NBC Coastal Campus. This alternative would have no significant socioeconomic impacts.

Environmental Justice

Alternative 3 would involve the same populations of potential environmental justice concern as Alternative 1, except for the addition of Census tract 51.00, which has a minority population percent of greater than 50 percent and a proportion of low-income residents higher than San Diego County as a whole. As a result, issues of environmental justice concern would be the same as described for Alternative 1, except for the inclusion of Census tract 51.00.

Construction traffic analyses suggest that significant and unmitigable traffic impacts may occur during the construction phase of the project. As under Alternative 1, these would likely occur along the transportation route between the Proposed Action footprint and I-5 in Imperial Beach and would be temporary in nature. The U.S. census tracts along this corridor all contain populations with high proportions of minority and/or low-income residents. Thus, construction traffic impacts for Alternative 3 would disproportionately accrue to minority populations and/or low-income populations. With the implementation of impact avoidance and minimization measures, however, these construction traffic impacts for Alternative 3 would not be high and adverse. Alternative 2 would not result in disproportionately high and adverse human health and environmental effects on minority populations and low-income populations.

Protection of Children

Census tracts containing high proportions of children of potential concern are the same under Alternative 3 as described under Alternative 1. Schools located within the 1-mile buffer of Alternative 3 are all the same schools listed for Alternative 1, plus Dunamis Academy, Sacred Heart Parish School, Coronado High School, Palm Academy for Learning, Christ Church Day School, Coronado Village Elementary, and Early Childhood Development Center. Recreational facilities located within the 1-mile buffer of Alternative 3 are all the facilities listed for Alternative 1, plus Coronado Skate Park, Coronado Tidelands Park, Embarcadero Marina Park North and South, Centennial Park, Coronado Ferry Landing Park, SDG, Bay View Park, Triangle Park, Palm Park, Shelter Island Shoreline Park, Louis C. Bandel Park, Sunset Park, Coronado Municipal Beach, Star Park, Rotary Park, Spreckels Park, Yacht Club Promenade Pocket Park, Mathewson Park, Vetter Park, Gloria Bay Park, Cronan Park, and Bay Circle Park. As a result, Alternative 3 would have a population of concern with respect to potential child health and safety issues.

Construction traffic analyses suggest that significant and unmitigable traffic impacts may occur during the construction phase of the project. As under Alternative 1, these would likely occur along the transportation route between the Proposed Action footprint and I-5 in Imperial Beach and would be temporary in nature. The majority of U.S. census tracts along the transportation corridor contain a disproportionately large percentage of children. With the implementation of impact avoidance and minimization measures, however, these construction traffic impacts for Alternative 3 would not present disproportionate risks to children. Alternative 3 would not result in environmental health risks and safety risks that disproportionately affect children.

Mitigation Measures and Impact Avoidance and Minimization Measures

The mitigation measures and impact avoidance and minimization measures for Alternative 3 would be the same as proposed for Alternative 1.

3.10.3 Unavoidable Adverse Environmental Effects

No unavoidable adverse environmental effects to socioeconomics during construction and operation of the Proposed Action would occur. Unavoidable temporary adverse effects could disproportionately occur to minority populations and/or low-income populations under each action alternative as a result of significant and unmitigable construction traffic impacts along the transportation corridor between the Proposed Action footprint and I-5 in Imperial Beach, but would not be high and adverse. Provided that the impact avoidance and minimization measures specified in Section 5.10 are implemented for the action alternatives, none of the alternatives would result in disproportionately high and adverse human health and environmental effects on minority populations and low-income populations and none of the alternatives would result in environmental health risks and safety risks that disproportionately affect children.

3.10.4 Summary of Effects

Table 3.10-10 summarizes the effects of the No Action Alternative and the three action alternatives.

Table 3.10-10
Summary of Socioeconomics and Environmental Justice Effects

Alternative	Summary of Effects	Mitigation Measures/Impact Avoidance and Minimization Measures
No Action Alternative	No effects on socioeconomics. No disproportionately high and adverse human health and environmental effects on minority populations and low-income populations. No environmental health risks and safety risks that disproportionately affect children.	Mitigation Measures: None Impact Avoidance and Minimization Measures: None
Alternative 1 – SSTC-South Bunker Demolition Alternative (Preferred Alternative)	Effects of the Proposed Action on socioeconomics would be largely beneficial in terms of employment and economic output; no impacts are anticipated to population or housing. Temporary debris removal and construction-related traffic would not have a significant socioeconomic impact. Significant and unmitigable temporary traffic impacts may occur during the construction phase of the project along the transportation route between the Proposed Action footprint and I-5 in Imperial Beach. The U.S. census tracts along this corridor all contain populations with high proportions of minority and/or low-income residents. With the implementation of impact avoidance and minimization measures, however, these construction traffic impacts for Alternative 1 would not be high and adverse. Alternative 1 would not result in disproportionately high and adverse human health and environmental effects on minority populations and low-income populations. Similarly, these same census tracts contain a disproportionately large percentage of children; however, with the implementation of impact avoidance and minimization measures, construction traffic impacts for Alternative 1 would not present disproportionate risks to children. Alternative 1 would not result in environmental health risks and safety risks that disproportionately affect children.	Mitigation Measures: None Impact Avoidance and Minimization Measures: • Pedestrian routes along the transportation corridor would be maintained or temporary alternate routes provided and clearly marked during the construction of traffic and access improvements and during the Proposed Action construction phase when traffic would be heavier than under normal conditions. • Residents in the affected census tracts would be notified of increased construction traffic via direct mail and road signage. • Emergency public services and other appropriate law enforcement agencies would be notified of increased traffic and how construction traffic may affect emergency response times.

Alternative	Summary of Effects	Mitigation Measures/Impact Avoidance and Minimization Measures
Alternative 2 – SSTC-South Bunker Retention Alternative	Similar to Alternative 1, with fewer impacts associated with debris removal. Alternative 2 would have no significant socioeconomic impacts, would not result in disproportionately high and adverse human health and environmental effects on minority populations and low-income populations, and would not result in environmental health risks and safety risks that disproportionately affect children.	Mitigation Measures: None Impact Avoidance and Minimization Measures: Same as for Alternative 1.
Alternative 3 – Multi-Installation Alternative	Similar to Alternative 1, with fewer impacts associated with debris removal. Alternative 3 would have no significant socioeconomic impacts, would not result in disproportionately high and adverse human health and environmental effects on minority populations and low-income populations, and would not result in environmental health risks and safety risks that disproportionately affect children.	Mitigation Measures: None Impact Avoidance and Minimization Measures: Same as for Alternative 1.

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3.11 PUBLIC HEALTH AND SAFETY

Public health and safety issues are defined as those elements of the Proposed Action that would directly affect the health and safety of individuals in the communities adjacent to the proposed NBC Coastal Campus alternative sites. The Navy's policy is to use every possible precaution in planning and executing all activities to prevent injury to people and damage to property. Effects that occur within Navy-controlled areas do not pose a substantial public safety or health concern because the public normally does not have access to these areas. This public health and safety assessment addresses effects that are not entirely contained within Navy-controlled areas, and activities that take place in areas of public use. Proposed Action effects that do not directly affect the health or safety of members of the public are not considered in this assessment; also, concerns that affect single individuals and isolated incidents may not rise to the level of a public health or public safety issue. Noise effects are not addressed in this section (see Section 3.6, Noise); thus, the resource to be evaluated for Proposed Action effects is the collective health and safety of groups of individuals in the communities adjacent to the proposed NBC Coastal Campus alternative sites.

3.11.1 Affected Environment

3.11.1.1 Region of Influence

The ROI for public health and safety concerns includes those portions of the cities of Coronado and Imperial Beach adjoining SSTC-South, NAB Coronado, and NASNI, along with the portions of SR-75 adjoining those installations and through Imperial Beach to I-5. Areas of heightened sensitivity to public health and safety concerns within the ROI include residential districts where substantial populations of people are present at all times of the day and night, and areas where large groups of people may gather, such as commercial areas, parks, marinas, public beaches, and other recreational open spaces.

3.11.1.2 Hazards Overview

Electromagnetic Radiation

Communications and electronic devices such as radar, electronic jammers, and other radio transmitters produce electromagnetic radiation (EMR). An EMR hazard exists when transmitting equipment generates electromagnetic fields that induce currents strong enough or voltages high enough to trigger electro-explosive devices in ordnance, directly harm people or wildlife, or create sparks that can ignite flammable substances. In addition to relatively high-power devices that may produce EMR, Navy personnel also routinely use low-power communications equipment, such as two-way radios and cell phones.

Hazards of EMR to personnel, ordnance, and fuel have been determined for EMR sources based on their operating frequency and power output. Hazards are reduced or eliminated by establishing minimum distances between EMR emitters and people, ordnance, and fuels. No known hazards to personnel, ordnance, or fuel exist at SSTC-South, NAB Coronado, and NASNI, and there are no hazards to the public in off-site areas; therefore, EMR will not be addressed further in this EIS.

Aircraft Accident Potential

Guidelines for establishing aviation safety zones around helicopter landing zones are identified in NAVFAC P-80.3, and include clear zones and accident potential zones. However, for land use planning purposes, clear zones for the unprepared SSTC-South landing zone are shown, based on NAVFAC P-80. This allows for a safe approach and departure route to the unprepared landing zone, which is routinely used in special warfare training. The Proposed Action would not include any changes to aircraft activities; therefore, this issue will not be addressed further in this EIS.

Hazards Ashore (Beach Activities)

SSTC-South, NAB Coronado, and NASNI are located in a portion of the greater San Diego urban area that is used heavily for recreational and commercial activities. Public beaches are located adjacent to all three installations, and public parks, bicycle paths, marinas, and boating areas are located in its vicinity. Navy beach training areas at these installations are accessible from the water; thus, physical barriers and other security measures instituted to prevent public access from adjacent lands do not ensure complete isolation of the beaches. The Proposed Action, however, would not include any changes to beach areas; therefore, this issue will not be addressed further in this EIS. Public safety from military activities occurring on the beach was addressed in the Silver Strand Training Complex EIS (Navy 2011b).

Installation Restoration Program

The IRP sites on SSTC-South, NAB Coronado, and NASNI are described in Section 3.4.

Emergency Management

NBC has an Installation Emergency Management Plan to "ensure that the installation is prepared for, able to mitigate the effects of, respond to, and recover from any emergency" (U.S. Navy 2013d). The plan provides the NBC Commanding Officer with the authority and responsibility to protect personnel, equipment, and facilities on NBC from both natural and manmade emergencies. It provides the framework for Navy interaction with federal, state, local, other service, and private organizations. The plan encompasses five phases of emergency management; prevention, mitigation, preparedness, response, and recovery. The plan:

- provides operational and response organization structures;
- identifies response resources and assets;
- establishes assessment requirements and criteria;
- establishes training standards for assigned personnel;
- provides policy for equipment procurement, issue, and maintenance;
- establishes exercise and evaluation requirements; and
- identifies operational procedures.

The plan includes an emergency alert system which provides mass warning and notification in the case of an emergency. It also includes an evacuation and sheltering.

Terrorist Activity

The concentration of military installations and activity in the San Diego area could cause concern that the area and particularly the NBC Coastal Campus, once built out, may be a potential target for a future terrorist attack. An Antiterrorism Plan is included as part of the NBC Installation Emergency Management Plan discussed above (U.S. Navy 2013d). The Antiterrorism Plan has site-specific measures for countersurveillance, counterintelligence, situational awareness, physical security, and law enforcement.

Public Access and Proximity

Loews Coronado Bay Resort Hotel and Coronado Cays residential development are located north of SSTC-South along the eastern side of SR-75, opposite Silver Strand State Beach. Land use on the southern side of SSTC-South in Imperial Beach is predominantly residential. Other nearby uses in Imperial Beach include an elementary school and some commercial development. YMCA Camp Surf is located on land leased from the Navy in the southwestern corner of SSTC-South. SSTC-South inland areas are fully fenced. Entrance into this area is controlled by guarded gates. However, oceanside beaches are accessible from public beaches to the south. The Navy owns the oceanside beach down to the mean high tide line and restricts public access to the SSTC-South beach areas above the mean high tide line.

Oceanfront high-rise residential condominiums are located west of NAB Coronado, and commercial and recreational uses are located immediately adjacent to and north of NAB Coronado. These uses are within the City of Coronado. NAB Coronado is fully fenced and access is controlled by guarded gates.

City of Coronado residential and commercial uses are located east of NASNI. NASNI is fully secure and all access is controlled by guarded gates. However, oceanside beaches are accessible from public beaches to the south in Coronado. The Navy owns the oceanside beach down to the mean high tide line and restricts public access to the NASNI beach areas above the mean high tide line. Public access during military training on the beaches was addressed in the Silver Strand Training Complex EIS (Navy 2011b).

3.11.2 Environmental Consequences

Public health and safety is an interdisciplinary issue that is intertwined with other environmental topics. Other sections will cover some of the same topics. Seismic hazards are addressed in Section 3.2, Geology and Soils. Hazardous air pollutants are addressed in Section 3.3, Air Quality, in accordance with the CAA's National Emissions Standards for Hazardous Air Pollutants regulations. The potential for a release of hazardous substances to result in chronic health effects is addressed in Section 3.4, Hazardous Materials and Waste. Human annoyance and the potential for hearing loss from noise are addressed in Section 3.6, Noise. Transportation of project personnel on public roads is addressed in Section 3.9, Traffic and Circulation. The remaining public health and safety issues are addressed in this section.

3.11.2.1 Approach to Analysis

This resource section focuses on groups of activities that could pose a credible risk to public health and safety. This analysis will focus on construction and use activities of the Proposed Action alternatives. Also addressed are activities that raise public safety concerns where members of the public are close to a

potentially hazardous activity or could be exposed to hazardous activities such as terrorism. As discussed in Section 3.11.1.2, Hazards Overview, the Proposed Action would not involve any changes to EMR, training ordnance, aircraft activities, underwater detonations, beach or water training activities, or public access; therefore, these activities will not be discussed further.

3.11.2.2 No Action Alternative

Impacts

Under the No Action Alternative, no new facilities or structures would be constructed, and all ongoing and planned military activities would continue. Routine activities conducted within SSTC-South, NAB Coronado, and NASNI pose little risk to public health or safety outside of these installations. Transportation and storage of hazardous materials in accordance with Federal, state, and Navy requirements pose no substantial risk to public health and safety. This alternative would have no significant public health and safety impacts.

Mitigation Measures/Impact Avoidance and Minimization Measures

No mitigation measures or impact avoidance and minimization measures are proposed.

3.11.2.3 Alternative 1 – SSTC-South Bunker Demolition Alternative (Preferred Alternative)

Impacts

This analysis will focus on construction and use (postconstruction) activities. Terrorist activity, although unlikely, is a possibility and will also be addressed.

Construction Activities

Under Alternative 1, construction of 24 projects would occur over a period of approximately 10 years. The types of projects would include a mix of instructional and administrative facilities that would support logistics, operations, training, and administration. All NSWC facility demolition and construction would occur within SSTC-South, which has Navy-controlled access. Typical utility and road improvements would occur off-site. All Occupational Safety and Health Administration standards from C.F.R. Title 29 would be implemented during demolition and construction.

Demolition of Building 99 would be conducted with the use of small commercial explosives and/or diamond saws to initially break up the structure followed by drilling and hammering to further break up the materials. The demolished concrete and steel would be reused as part of the construction material for the Coastal Campus or removed to a local landfill. Assuming a worst-case scenario of no reuse, removal of the debris would result in approximately 5,400 truck (round trip) trips from SSTC-South to I-5 via Palm Avenue (SR-75). Complete demolition would last approximately 24 months; however, the majority of the debris removal would occur over a 2- to 3-month period. A detailed demolition plan would be prepared prior to initiation of demolition activities.

The proposed construction activities would not be any different from construction activities occurring throughout San Diego, and all standard construction safety procedures would be implemented.

Demolition and construction safety procedures per applicable subparts of the Occupational Safety and Health Administration standards from C.F.R. Title 29 could include:

- Eye protection, protective clothing, respiratory protection, head protection, foot protection, electrical protective equipment and hand protection (see Personal Protective Equipment; subparts 1910.132 to 1910.139)
- Number of and ease of access to exits within each area and emergency plans (see Means of Egress; subparts 1910.35 through 1910.38)
- First aid availability and training (see Medical and First Aid; subparts 1910.151 through 1910.152)
- Guarding and maintenance of hand-powered equipment (see Hand and Portable Powered Tools and Other Hand-Held Equipment; subparts 1910.241 through 1910.244)
- Design safety standards, safe work practices, maintenance requirements (see Electrical; subparts 1910.301 through 1910.399)

With the implementation of a detailed demolition plan and the compliance with relevant health and safety standards, demolition and construction activities would not result in a significant public health and safety impact.

Postconstruction Use Activities

Activities conducted within SSTC-South with implementation of Alternative 1 would pose little risk to public health or safety outside of the installation's boundary. Transportation, use, and storage of explosives, ammunition, and hazardous materials and waste would be conducted in accordance with Federal, state, and Navy requirements, and would pose no substantial risk to public safety.

Emergency Management

The development of the Coastal Campus would establish additional assets and facilities that could be susceptible to a natural or manmade emergency. The construction and operation of Alternative 1 would be done in compliance with the NBC Installation Emergency Management Plan and all of its relevant supporting plans.

Terrorist Activity

The NBC Coastal Campus could be perceived as a future target of terrorism due to the NSW concentration. It would not, however, be considered any more of a focus than NAB Coronado or NASNI, or any other military installation. A terrorist attack would be directed at the NBC Coastal Campus and not the local community; however, collateral damage and injuries as a result could occur in the areas surrounding SSTC-South. The installation has, and would continue to have, secure, controlled access 24 hours per day, 7 days per week. SSTC-South inland areas are fully fenced. The Navy owns the oceanside beach down to the mean high tide line and restricts public access to the beach training lanes above the mean high tide line. Alternative 1 would comply with the Antiterrorism Plan (as part of the NBC Installation Emergency Management Plan) and Anti-Terrorism/Force Protection guidelines would be incorporated into the NBC Coastal Campus design to further enhance security and safety at SSTC-South.

The Navy periodically conducts inspections of Navy installations to address security and safety, and implements all necessary counterterrorism measures. These measures work cohesively to discourage any act of terrorism. Therefore, terrorist activity, although unlikely, would not be considered a significant impact to public health and safety of surrounding residents and the public in general because of the Proposed Action.

Mitigation Measures/Impact Avoidance and Minimization Measures

Mitigation Measures

No mitigation measures are proposed.

Impact Avoidance and Minimization Measures

- Prior to the start of any demolition activities, contractors shall perform hazardous building materials surveys in order to identify and implement appropriate control measures during demolition to protect human health (both worker and public) and the environment. Appropriate control measures may include preparation and implementation of demolition plans, lead compliance plans, and/or asbestos abatement plans, as necessary, depending upon the results of the hazardous materials building surveys.
- Compliance with the NBC Installation Emergency Management Plan and its relevant supporting plans.
- A detailed demolition plan would be prepared prior to initiation of demolition. The plan would include:
    - demolition methods,
    - dates and times of explosives use,
    - hauling trip timing, and
    - nighttime or weekend demolition.
- The surrounding residents, public officials, and local businesses would be notified of explosives usage, peak hauling traffic times, and nighttime and weekend work.
- Compliance with all standard construction safety procedures and applicable subparts of the Occupational Safety and Health Administration standards would occur.

3.11.2.4 Alternative 2 – SSTC-South Bunker Retention Alternative

Impacts

Construction Activities

Alternative 2 would include similar building construction activities as Alternative 1. The type of construction would be typical of military structures, would primarily occur within the footprint of SSTC-South, and would include all standard construction safety procedures. Alternative 2 does not include the

demolition of Building 99. Construction activities for Alternative 2 would not result in a significant public health and safety impact.

Postconstruction Use Activities

Use activities impacts for Alternative 2 would be the same as for Alternative 1.

Emergency Management

Alternative 2, like Alternative 1, would comply with the NBC Installation Emergency Management Plan and all of its relevant supporting plans.

Terrorist Activity

Potential terrorist threats with respect to Alternative 2 would be the same as for Alternative 1.

Mitigation Measures/Impact Avoidance and Minimization Measures

Mitigation Measures

No mitigation measures are proposed.

Impact Avoidance and Minimization Measures

- Prior to the start of any demolition activities, contractors shall perform hazardous building materials surveys in order to identify and implement appropriate control measures during demolition to protect human health (both worker and public) and the environment. Appropriate control measures may include preparation and implementation of demolition plans, lead compliance plans, and/or asbestos abatement plans, as necessary, depending upon the results of the hazardous materials building surveys.

- Compliance with the NBC Installation Emergency Management Plan and its relevant supporting plans.

- Compliance with all standard construction safety procedures and applicable subparts of the Occupational Safety and Health Administration standards would occur.

3.11.2.5 Alternative 3 – Multi-Installation Alternative

Impacts

Construction Activities

Alternative 3 would include similar demolition and building construction activities as Alternative 1 in the SSTC-South, but with fewer structures. Additional structures would be constructed at NAB Coronado and NASNI. No additional public health and safety impacts would be anticipated from the additional

construction on NAB Coronado and NASNI. The type of demolition and construction would be typical of military structures and would include all standard construction safety procedures, consistent with those described under Alternative 1. Under Alternative 3, Building 99 would be retained or adaptively reused. These public health and safety impacts would be the same as described for Alternative 2.

Postconstruction Use Activities

Activities conducted within SSTC-South, NAB Coronado, and NASNI with implementation of Alternative 3 would pose little risk to public health or safety outside of the installation's boundary. Transportation, use, and storage of hazardous materials would be conducted in accordance with Federal, state, and Navy requirements, and would pose no substantial risk to public safety.

Emergency Management

Alternative 3, like Alternative 1, would comply with the NBC Installation Emergency Management Plan and all of its relevant supporting plans.

Terrorist Activity

The NBC Coastal Campus could be a future target of terrorism due to the NSW concentration, as described under Alternative 1, and this would not differ under Alternative 3. SSTC-South, NAB Coronado, and NASNI would not be considered any more of a focus, however, than any other military installation. All three installations have secure, controlled access 24 hours per day, 7 days per week, within inland areas that are fully fenced. The Navy owns the oceanside beach down to the mean high tide line and restricts public access to the beach areas above the mean high tide line. Anti-Terrorism/Force Protection guidelines would be incorporated into the NBC Coastal Campus design to further enhance security and safety. The Navy periodically conducts inspections of Navy installations to address security and safety, and implements all necessary counterterrorism measures. These measures work cohesively to discourage any notion of terrorism and to forcibly protect against any terrorism. Therefore, terrorist activity, although a remote possibility, would not be considered a significant impact to public health and safety under Alternative 3.

Mitigation Measures/Impact Avoidance and Minimization Measures

Mitigation Measures

No mitigation measures are proposed.

Impact Avoidance and Minimization Measures

The impact avoidance and minimization measures for Alternative 3 would be the same as discussed above for Alternative 2.

3.11.3 Unavoidable Adverse Environmental Effects

No unavoidable adverse environmental effects to public health and safety would occur as a result of implementation of any the alternatives.

3.11.4 Summary of Effects

Table 3.11-1 summarizes the effects of the No Action Alternative, Alternative 1, Alternative 2, and Alternative 3.

Table 3.11-1
Summary of Public Health and Safety Effects

Alternative	Effects	Mitigation Measures/Impact Avoidance and Minimization Measures
No Action Alternative	No significant public health and safety impacts.	Mitigation Measures: None Impact Avoidance and Minimization Measures: None
Alternative 1 – SSTC-South Bunker Demolition Alternative (Preferred Alternative)	Demolition of Building 99 could include the use of small commercial explosives and/or diamond saws and drilling and hammering to break up the materials. The demolition debris would either be reused as part of the construction material for the Coastal Campus or removed to a local landfill. A detailed demolition plan would be prepared prior to demolition activities. Construction activities would be typical of military structures, would primarily occur within the footprint of SSTC-South, and would include all standard construction safety procedures. Construction activities would not result in a significant public health and safety impact. Postconstruction use activities would pose no substantial risk to public health and safety. Terrorist activity, although unlikely, would not be considered a significant impact to public health and safety.	Mitigation Measures: None Impact Avoidance and Minimization Measures: • Compliance with all standard construction safety procedures and applicable subparts of the Occupational Safety and Health Administration standards. • Preparation of a detailed demolition and lead/asbestos abatement plan. • Prior to the start of any demolition activities, contractors shall perform hazardous building materials surveys in order to identify and implement appropriate control measures during demolition to protect human health (both worker and public) and the environment. Appropriate control measures may include preparation and implementation of demolition plans, lead compliance plans, and/or asbestos abatement plans, as necessary, depending upon the results of the hazardous materials

Alternative	Effects	Mitigation Measures/Impact Avoidance and Minimization Measures
		building surveys. • Compliance with the NBC Installation Emergency Management Plan and its relevant supporting plans.
Alternative 2 – SSTC-South Bunker Retention Alternative	Same as Alternative 1, except Alternative 2 would not include the demolition of Building 99.	Mitigation Measures: None Impact Avoidance and Minimization Measures: Same as for Alternative 1.
Alternative 3 – Multi-Installation Alternative	Same as Alternative 2, except construction would also occur at NAB Coronado and NASNI.	Mitigation Measures: None Impact Avoidance and Minimization Measures: Same as for Alternative 1.

3.12 UTILITIES AND PUBLIC SERVICES

3.12.1 Affected Environment

3.12.1.1 Region of Influence

The ROI for utilities and public services includes SSTC-South, NAB Coronado, NASNI, and the nearby facilities and service providers. The focus of the analysis will be on SSTC-South and its surroundings since all or the vast majority of the proposed MILCONs would occur at that site under the action alternatives.

3.12.1.2 Utilities

This section will address water, wastewater, electrical, natural gas, and communications. It is believed there are no steam or fuel utilities currently on the NBC Coastal Campus sites. Table 3.12-1 provides a summary of the existing utilities conditions and Figure 3.12-1 shows those utilities.

Table 3.12-1
Existing Utilities Summary

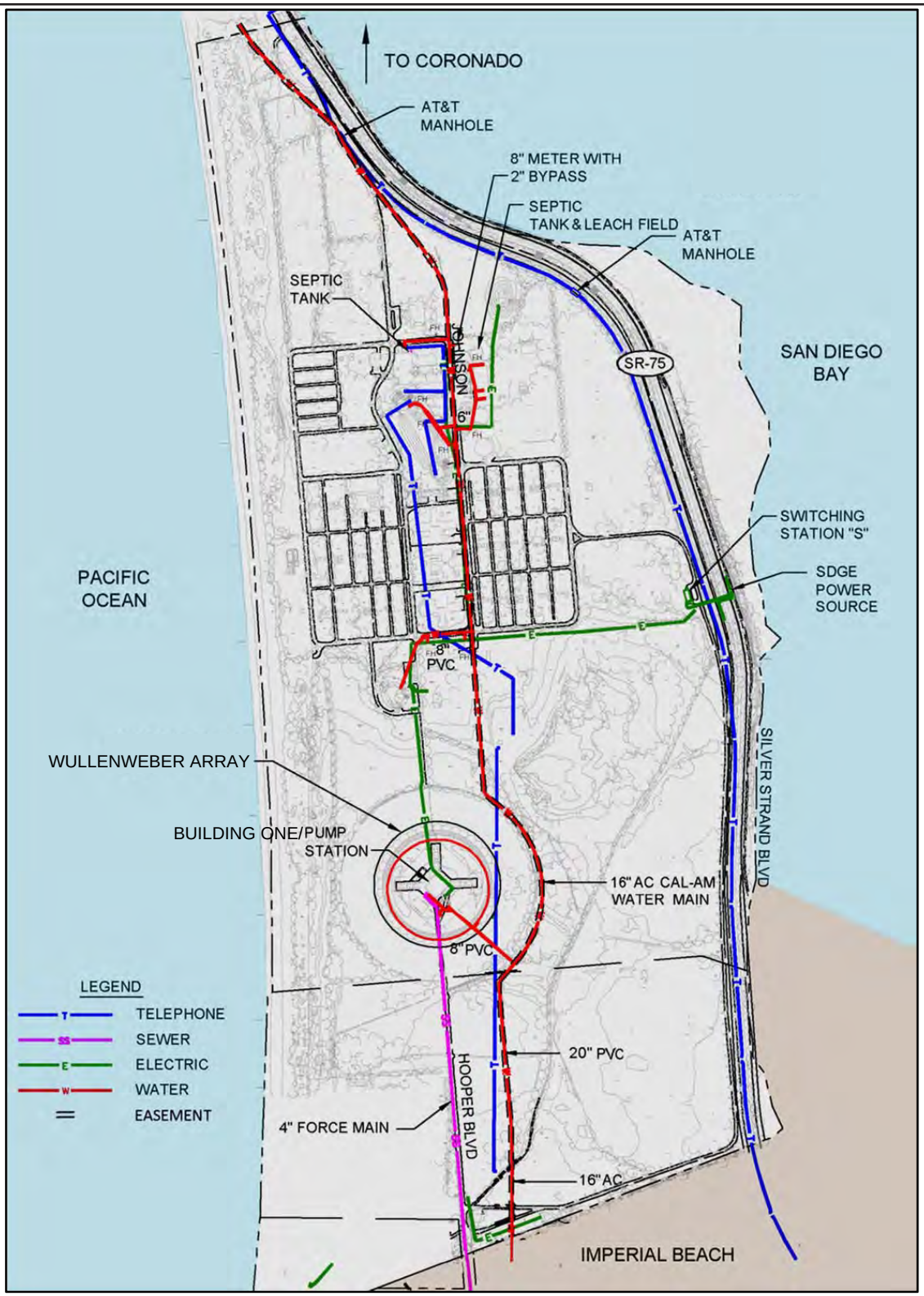
Utility	Existing Conditions
Water	
Provider	California American Water Company, City of San Diego
Existing Conditions	SSTC-South: California American Water Company gets their water from the City of San Diego via one large tank at Palm Avenue and I-805 to serve the City of Imperial Beach. SSTC-South is served from that system via a 16-inch/20-inch main that bisects the site north-south (Figure 3.12-1). The water main is located within a California American Water Company 30-foot-wide easement that starts in 3rd Street in Imperial Beach, extends north through SSTC-South, and exits the project site at SR-75 on the north end of the site. There are currently three 8-inch connections and one 6-inch connection to this pipe, which serve the existing Navy facilities on SSTC-South. The existing water demand at SSTC-South is currently 13,750 gallons per day. There are 10 fire hydrants operating on-site with a flow rate of 1,090 gallons per minute. NAB Coronado: Water is provided by the City of San Diego. The water travels through a single 24-inch trans-bay pipeline to a 16-inch transmission main at First Street and E Avenue. The 16-inch transmission main extends south, through the City of Coronado, to NAB Coronado. The pipeline is owned and operated by the Navy. An additional water system, located in the City of Coronado, is supplied by Cal-American. The Navy has a water main at Gate 2 that supplies a second connection to the system. Throughout NAB Coronado, there is an 8-inch distribution system with two 1-million-gallon aboveground storage tanks (only one tank is in operation) and associated pump stations to supply water. NASNI: Water comes from the City of San Diego through a 24-inch pipeline that is owned and operated by the Navy. The line is adequate to service the installation.

Utility	Existing Conditions
Wastewater	
Provider	City of Imperial Beach
Existing Conditions	SSTC-South: The sewer infrastructure consists of both septic systems with leach fields and a sewer main that connects to the City of Imperial Beach sewer system. The City of Imperial Beach has been providing wastewater service to SSTC-South via a 4-inch-diameter pressurized sewer main within Hooper Boulevard. The existing 4-inch-diameter pressurized sewer main runs from a pump station at Building 1 south to the City of Imperial Beach (Carnation Avenue/Silver Strand Boulevard) (Figure 3.12-1). The existing sewer capacity for the pressurized 4-inch line is calculated to be 15 percent full using the City of San Diego Sewer Guidelines. The remainder of the site facilities is serviced with septic systems and leach fields. The City of Imperial Beach has a purchase agreement with the City of San Diego to treat 3.5 million gallons per day (mgd) of sewage. For the last 20 years, the city has been sending out 2.2 to 2.5 mgd. Since Imperial Beach is essentially built out, there is not much increase forecasted. NAB Coronado: Sewage collection systems are located throughout the base and consist of four sewage pump stations. Building 307 contains the largest of the pumps and has three vertical dry well sewage pumps that discharge into 8-inch and 10-inch asbestos cement force mains. The other sewage stations handle sewage west of SR-75, with one station in Building 603. Sewage from NAB Coronado is combined with sewage from NASNI and pumped to the 36-inch First Street interceptor in the City of Coronado. The sewage is then metered by the City of Coronado and pumped across San Diego Bay to the City of San Diego interceptor. NASNI: A sanitary sewer system currently exists that contains gravity sewers, pumps, lift stations, and force mains. The system is discharged through the City of Coronado where it combines with the sanitary waste from NAB Coronado. Approximately 68 percent of the available capacity at the Coronado facilities is designated for Navy use.
Electrical	
Provider	San Diego Gas and Electric Company (SDG&E)
Existing Conditions	SSTC-South: SSTC-South receives power from SDG&E from a point of connection on the eastern boundary of the site roughly halfway between the northern and southern borders. There are three electric services to the site, two at 12,000 volts (12 kV) to Switching Station S, and a small 120/240 kV service for the southern control gate/guard station (Figure 3.12-1). The peak station demand between March 1999 and December 2009 was 162 kilowatts (kW). SDG&E services are currently lightly utilized since each of the two 12 kV services are capable of delivering up to 4,655 kW each for a total capacity of 9,309 kW. The general condition of the equipment is marginal-satisfactory. NAB Coronado: SDG&E supplies power from 12 kV overhead lines that serve a metering station near Gate 2. Existing demand is 126 amps (RBF Consulting 2013). The base has 2,000 amps of switching capacity that can supply 1,496.5 kW. NASNI: SDG&E supplies power from a 69 kV overhead line that supplies a substation, Station A, that is stepped down to 12 kV distribution feeders near the back gate (RBF Consulting 2013).

Utility	Existing Conditions
Natural Gas	
Provider	SDG&E
Existing Conditions	SSTC-South: No natural gas services are currently located on SSTC-South. Two gas lines (metered high-pressure 0.75-inch and 1.5-inch gas mains) are available near SR-75 and are stubbed out at the south end of the site on Hopper and 3rd Street. NAB Coronado: A 6-inch metered high-pressure natural gas main on SR-75 supplies NAB Coronado, which is then distributed throughout the Base. NASNI: SDG&E supplies natural gas from a 4-inch steel main with metering located throughout the Base. The distribution system is over 40 years old but in adequate condition.
Communication	
Provider	AT&T
Existing Conditions	SSTC-South: The site is served by AT&T from a line that runs north-south along the entire eastern boundary near SR-75 (Figure 3.12-1). Existing communication facilities include fiber-optic lines and 4-inch telephone conduits with cable. The majority of the telephone conduits, owned by AT&T, are located in the middle of the site, were installed in 1968, have been retired in place, and are no longer in service. NAB Coronado: Existing service is supplied from SR-75 and the communications distribution system is routed throughout the Base. NASNI: Existing service is supplied through the City of Coronado and the communications distribution system is routed throughout the Base.
Storm Water	
Existing Conditions	SSTC-South: This site consists of disturbed areas, but the majority of the area is undeveloped land. Currently, the built environment is composed of roadways, facilities, and utilities that support the training needs of the U.S. Navy. An existing road that runs east and west serves as a natural boundary between the northern and southern halves of the site. The northern half of the site has three areas of generalized flow (Figure 3.12-2). The very northern portion of the project site flows either east or west from the high point, or ridge, and then to the north. An access road runs along the high point, and anything east of the road sheet flows to the east and anything west sheet flows to the west. The runoff flowing to the west runs off toward the existing dunes and then ponds in a low point where it evaporates or infiltrates into the existing soil. The runoff flowing to the east flows to a drainage structure that conveys it underneath SR-75 and into the bay. A high point, the old railroad tracks that run north to south, divides the rest of the site. All of the runoff to the east of the tracks steadily flows south, where it infiltrates in smaller storm events and potentially overflows to the southern portion of the site in larger storm events, where it ponds in a low-lying area and is allowed to infiltrate and evaporate. The very northern end of this section of the watershed flows to a low spot on the eastern side of the site and where the runoff ponds. The portion of the site to the west of the railroad tracks flows toward the beach and ocean but is stopped along the western boundary by an earthen berm underneath the chain-link fence. This forces the runoff to turn either north or south and flow to the nearest low point where it ponds until the water is deep enough to flow over the berm and out to the existing dunes where it ponds and infiltrates. The southern half of the site has several different drainage patterns (Figure 3.12-3). There is a road, which runs from the northeast corner of the southern half of the site, diagonal to the center of the southern boundary of the site.

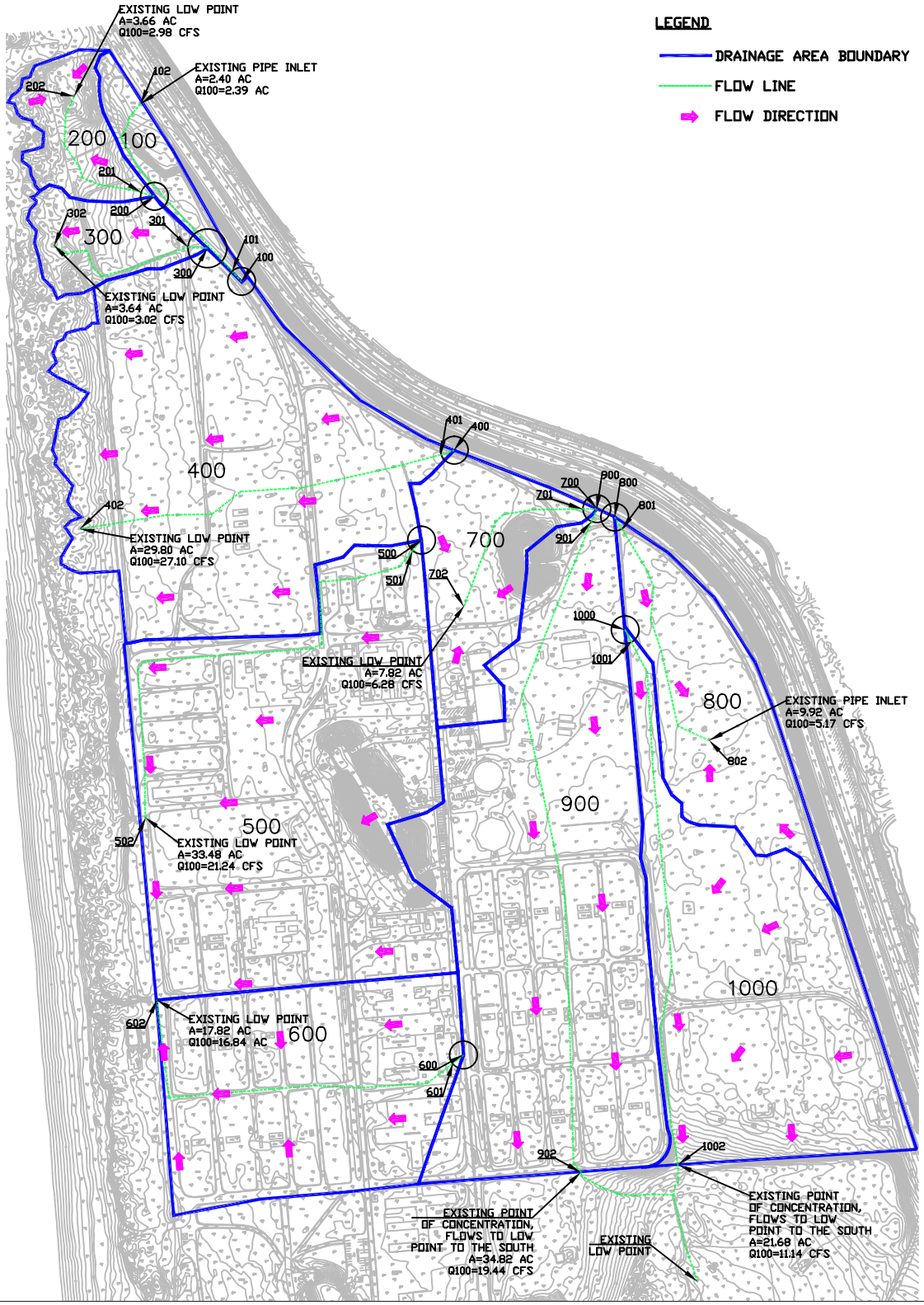
Utility	Existing Conditions
	Anything east of the road flows toward the bay and anything west of the road either ponds, infiltrating and evaporating, or flows across the southern boundary of the site. The existing Wullenweber Antenna Array facility in the center of the southern half is self-contained. No runoff leaves the facility since 6 inches of gravel covers the entire area, which provides enough storage for the 100-year storm. It appears that the existing project area has been designed to self-contain its runoff and allow the runoff to evaporate and infiltrate into the existing ground. There also is no existing storm drain system; all of the runoff is sheet flow. With the prevalence of undeveloped land and the abundance of well percolating soil, all of the runoff from the pre-project site is able to percolate into the ground. NAB Coronado: During and after storm activities there is localized flooding and ponding in areas throughout the Base, due to the low elevation and flat topography. The existing storm water collection system in the area of Alternative 3 project sites collects surface storm water and excess irrigation water and conveys it to the bay by a 12-inch pipe. NASNI: Conventional storm drainage exists throughout NASNI. Localized ponding occurs in several locations near the proposed P-870 (portion of UAV facility) site, but drains quickly into surrounding storm drains and to the Bay. Pumping stations are located throughout the base in the event of excessive ponding.

1



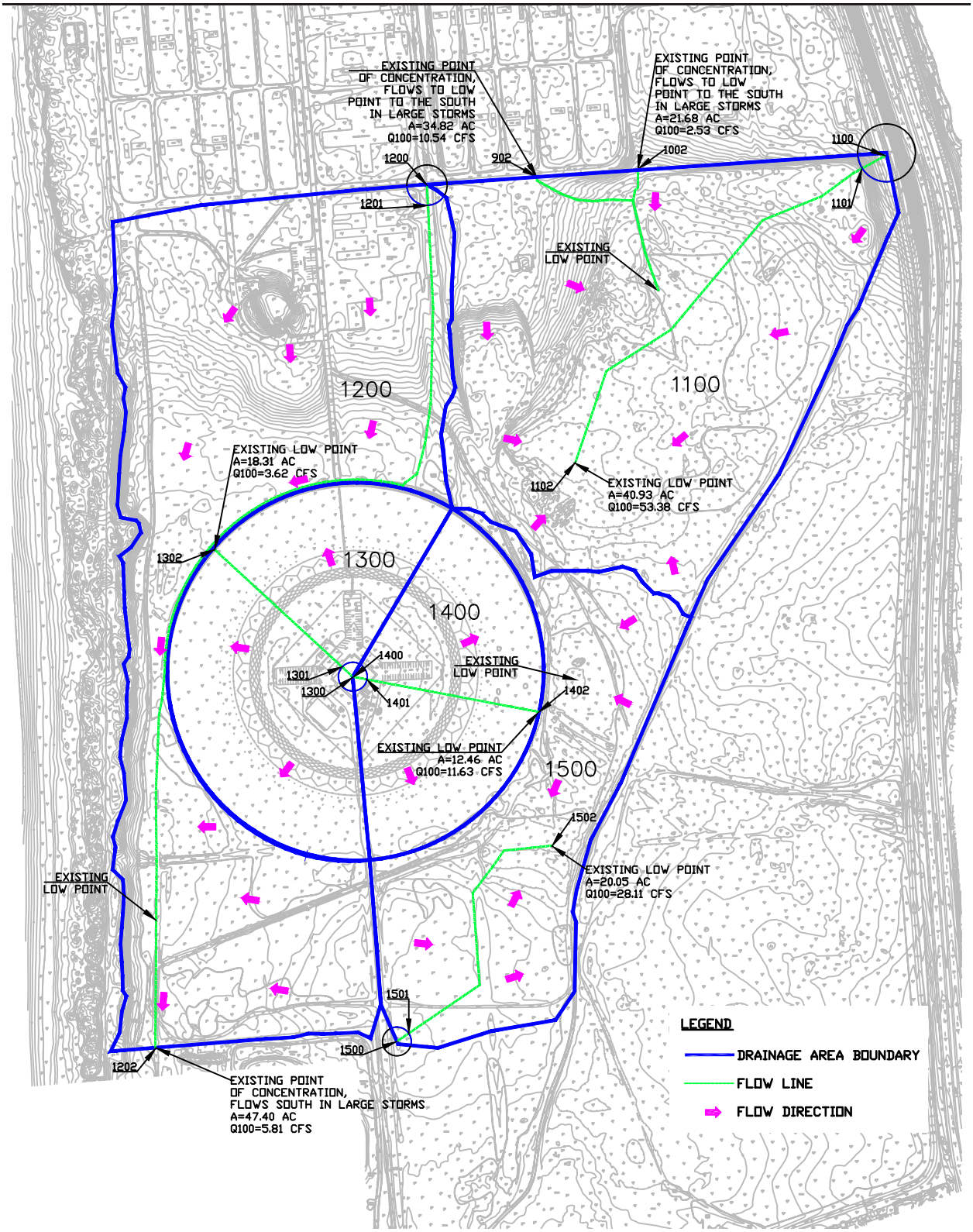
Not to Scale

Figure 3.12-1
Existing Utilities



Not to Scale

Figure 3.12-2
Existing Drainage Basins and Features



Not to Scale

Figure 3.12-3
Existing Drainage Basins and Features, South

3.12.1.3 Public Services

This section describes police protection, fire protection, and solid waste provision. The focus of the analysis is on these types of public services provided on-base with a brief description of civilian protection services operated by the adjacent communities of Coronado and Imperial Beach, as well as the Port of San Diego Harbor Police. Schools, library, and other public services for the general community are not addressed as there is no residential component to the proposed NBC Coastal Campus that could affect or modify those services or influence the demand for the provision of such services for military personnel or civilians.

Police

NBC

Law enforcement at NBC is the responsibility of NBC Security under the supervision of the Commander Navy Region Southwest Security Forces. NBC Security provides internal security for SSTC, NAB Coronado, and NASNI. They also oversee traffic control and enforcement and crime prevention as well as provide law enforcement services to all tenant organizations (Rowcliffe 2013).

City of Coronado

The City of Coronado operates its own independent police department that provides police protection services to the community, located at 700 Orange Avenue in Coronado. It employs 67 paid employees and uses citizen volunteers for additional safety programs (City of Coronado 2013). The Coronado Police Department's Field Services Division includes 20 patrol officers and five sergeants that handle emergency and nonemergency calls for service. Investigative Services investigates crimes that are committed against people and property and is staffed with one sergeant, four detectives, an evidence technician, four task force officers, and an administrative assistant.

City of Imperial Beach

The San Diego County Sheriff's Department provides contract law enforcement services to the City of Imperial Beach out of its Imperial Beach Substation at 845 Imperial Beach Boulevard. The Imperial Beach Substation staffing includes 26 contracted (in whole or part) sworn personnel. The Traffic Division consists of one traffic sergeant, one motorcycle traffic deputy, two traffic investigators, and four community service officers. The Imperial Beach Substation's Detective Unit consists of three detectives, four patrol sergeants, and 11 patrol deputies. A school resource officer and four civilian personnel are also assigned to the Imperial Beach Station (City of Imperial Beach 2012). In addition to providing contract services to Imperial Beach, the San Diego Sheriff's Department also provides law enforcement services to the unincorporated communities in the southwestern portion of the county out of Imperial Beach Substation.

Harbor Police

The Harbor Police Department provides uniformed police services and marine firefighting within the territorial limits of the Port of San Diego and jurisdiction extends through SDUPD member cities of San Diego, Chula Vista, Coronado, Imperial Beach, and National City. The department's services include

professional law enforcement and support staff interacting with the public to ensure a safe and secure environment at San Diego International Airport, on San Diego Bay, and on Tidelands. The Harbor Police is the law enforcement arm of the Port of San Diego and has 130 sworn officers, all trained as firefighters and police officers (San Diego Unified Port District 2013).

Fire Protection

NBC

Fire protection at NBC is the responsibility of the Federal fire department, which has a station on NBC and is referred to as Fire and Emergency Services (F&ES). F&ES has a mutual aid agreement with other local fire departments, including the Cities of Coronado and Imperial Beach.

City of Coronado

The City of Coronado operates its own independent fire department that provides fire protection and emergency medical services to the community, headquartered at 1001 Sixth Street in Coronado.

City of Imperial Beach

The City of Imperial Beach fire department is located at 865 Imperial Beach Boulevard. The Imperial Beach Fire Department is an ISO Class 4 Department with one fire station and is staffed with 12 suppression personnel, one secretary, one deputy chief, and one fire chief/public safety director. The suppression staff work a 56-hour workweek consisting of three platoons. Suppression personnel include three captains, one engineer, two engineer/paramedics, four firefighter/paramedics, and one firefighter. The department provides fire suppression, emergency medical services, prevention, education, inspection, community service, and weed abatement duties and responds to approximately 1,800 calls for emergency service each year (City of Imperial Beach 2013).

Harbor Police

The Harbor Police Department provides marine firefighting services throughout their jurisdiction. All Harbor Police officers are cross-trained to meet the standards of a Marine Firefighter. Harbor Police sworn staff respond to all types of fire-related incidents on and adjacent to San Diego Bay, inner and outer coastal waters, and under mutual aid to assist San Diego City Lifeguards in Mission Bay (San Diego Unified Port District 2013).

Solid Waste

Municipal Solid Waste

Nonhazardous municipal solid waste generated at NBC is collected by contracted service with EDCO. Solid waste collected from all installations at NBC is transported to and disposed of at Miramar Landfill. Miramar Landfill is located on U.S. Naval property at Marine Corps Air Station Miramar and is operated by the City of San Diego. Because the Navy owns the property that the landfill occupies, there is no tipping/disposal fee charged to the Navy for their waste disposal at the facility. It is anticipated that, at the

current rate of disposal, Miramar Landfill will be filled to capacity and close by 2022 (City of San Diego 2013). Further waste reduction efforts could extend the life of the landfill.

Recycling

Recycling and other waste diversion efforts on NBC are directed by the Navy Region Southwest Sustainable Solid Waste Program (SSWP). Recycling is mandated and therefore all tenants are held responsible to participate per the requirements of Commander Navy Region Southwest Instruction 5090.2. The mission of the SSWP is to divert recyclable materials from the non-hazardous municipal solid waste stream and turn those items into a commodity. In addition, an objective is to extend the life span of the Miramar Landfill for as long as possible by limiting the volume of solid waste transported and disposed in that facility. The SSWP provides recycling containers; transportation to collect materials, segregation of materials at the facilities provided by the installation, and bailing materials; maintains direct sales authority; and provides reporting and record keeping. MOAs are in place for all of the various materials received, including but not limited to office paper, cardboard, scrap metal, plastic, wood, ink toner cartridges, and lead acid batteries.

Construction and Demolition Debris

C&D debris landfill diversion is mandated by Commander Navy Region Southwest Instruction 11350.1B. This instruction states that the Navy's best interests are served through recycling and/or reuse and proper management of C&D debris for both financial and environmental benefits. The instruction provides a requirement of 50 percent diversion of C&D. When C&D activities are being undertaken through use of a private contractor, diversion requirements are incorporated into the contact and require the inclusion of a Solid Waste Management Plan. The Solid Waste Management Plan involves estimating the quantity of C&D waste that can be diverted, authorization of the maximum quantity of C&D waste that would be allowed to be deposited using free coupons at the Miramar Landfill, and record keeping and reporting of quantities by weight of C&D waste deposited and diverted from the Miramar Landfill.

3.12.2 Environmental Consequences

3.12.2.1 Approach to Analysis

This section focuses on the utility and public service conditions that would affect or be affected by construction and operation of the proposed NBC Coastal Campus. The analysis focuses on the ability of the existing utilities and services and the recommended utilities and services improvements necessary to serve the proposed Coastal Campus.

3.12.2.2 No Action Alternative

Impacts

The No Action Alternative would not change current utilities and services conditions on SSTC-South, NAB Coronado, and NASNI. No new development would occur as part of the NBC Coastal Campus and, therefore, no impacts would occur to utilities and public services.

Mitigation Measures/Impact Avoidance and Minimization Measures

No mitigation measures or impact avoidance and minimization measures are proposed.

3.12.2.3 Alternative 1–SSTC-South Bunker Demolition Alternative (Preferred Alternative)

Impacts

During the initial phases of Alternative 1 construction, there would still be a need to use interim utilities, like septic fields, propane tanks, microwave communication lines, etc. This would continue until coordination with utility agencies is complete and the proposed infrastructure is installed.

Utilities

Water

The Proposed Action would add approximately 3,500 (nonresidential) personnel to SSTC-South. The actual number is 3,353 but for the purposes of the water demand analysis, the higher number of 3,500 was used. The average daily water requirements, using 35 gallons per day per capita, would be approximately 122,500 gallons per day or 170 gallons per minute. The peak flow requirements would be approximately 987 gallons per minute. The fire flow requirements would be 4,000 gallons per minute. The existing 16-inch (northern portion of SSTC-South)/20-inch (southern portion of SSTC-South) California American Water Company water line along with proposed laterals from the main pipeline would adequately serve the proposed Coastal Campus providing both domestic and fire service. The existing 16-inch/20-inch line would be tapped into at two locations to provide redundancy for the 10-inch fire main, as well as an additional tap for a 6-inch potable line for service to the new MILCONs. Each connection would be equipped with a reduced pressure backflow preventer and water meter. The piping system within the Coastal Campus would be looped to provide redundancy and induce circulation to prevent water stagnation inside the pipes. All underground piping would be polyvinyl chloride (PVC) and all aboveground piping would be ductile iron and copper.

Further studies would be performed to determine project phasing and to coordinate with California American Water Company to refine the timing of the expected demand. California American Water Company has advised the Navy that 200,000 gallons of on-site water storage along with booster pumps would be needed to handle peak flows. The water storage (in one or more water tanks) and pumps would be located within the project footprint and no off-site improvements would be required.

The 30-foot California American Water Company water easement may need to be relocated within the Alternative 1 footprint. It currently extends through the Coastal Campus footprint and constructing new facilities overtop of the pipeline would hinder future pipeline maintenance and/or repair. The condition of the pipeline is deteriorating as evidenced by a recent leak. If relocation is required, the new alignment would follow the western boundary to the central portion of SSTC-South and then turn east to connect to the existing pipeline. The replaced portion(s) of the existing pipeline would be abandoned in place or excavated during construction. To minimize any interruption of water service, the new pipelines would be installed and reconnection would occur during off-peak times.

Approximately 3,045 of the new personnel at SSTC-South would be transferring with the phased construction from NAB Coronado. This would result in a reduction in water demand at NAB Coronado.

With the proposed water facility improvements required by California American Water Company, such as additional water storage tanks and booster pumps, there is adequate water capacity and service for Alternative 1. There would not be a significant water supply impact.

Wastewater

The City of Imperial Beach has a purchase agreement with the City of San Diego to treat 3.5 million gallons per day (mgd) of wastewater. For the last 20 years, the City of Imperial Beach has been conveying 2.2 to 2.5 mgd of wastewater to the City of San Diego. Since the City of Imperial Beach is essentially built out, there is not much increase forecasted for this system. The proposed Coastal Campus would generate approximately 200,000 gallons of new wastewater per day (0.2 mgd), well below the capacity identified in the City of Imperial Beach's purchase agreement with the City of San Diego City.

The City of Imperial Beach's wastewater hydraulic capacity was modeled with the wastewater demand of Alternative 1. The modeling determined that, although there is plenty of capacity within the limits of the purchase agreement, the existing City of Imperial Beach system does not have capacity to handle the additional flows from Alternative 1 (RBF Consulting 2013).

The proposed Alternative 1 sewer system would collect sanitary sewer flows via a gravity system installed from the new buildings and conveyed south to a proposed 450 gpm pump station, where it would be pumped to the same disposal point as the current system (existing manhole at the south gate main entrance). The gravity system would consist of a backbone network of 8-inch-diameter PVC pipes and 4-foot-diameter concrete manholes. The sewer pipes would be constructed with sufficient slope to generate self-cleaning velocities. Minimum pipe diameter for building connection would be 6 inches. To minimize potential infiltration, the external walls of the manholes would be waterproofed and all sewer pipes installed with watertight joints.

The anticipated sewer force main would be approximately 4,000 feet long and 6 inches in diameter. Operational redundancy during emergency conditions would be provided by equipping the new pump station with an emergency storage facility capable of accommodating up to 6 hours of average sewer inflow.

The City of Imperial Beach's gravity sewer lines downstream from the point of connection to the Navy's system at Carnation Avenue may not be able to accommodate peak morning flows. A potential solution would be to increase the capacity of the Coastal Campus on-site emergency storage facility to store the peak morning flows, or to construct a separate wet well to temporarily retain wastewater that could be pumped out during non-peak times. If that is not possible, the City's gravity sewer mains would need to be increased in size. Pump Station 1 (near the southwest corner of the intersection of Imperial Beach Boulevard and 9th Street) would need to be upsized. If that is not possible, the second solution would be to upsize the City's gravity sewer mains. Approximately 3,500 feet of gravity pipelines, ranging in diameters from 6 inches to 15 inches, is recommended to be upsized to diameters from 10 inches to 18 inches. More detail can be found in the report Hydraulic Capacity Evaluation for Naval Silver Strand Training Center (RBF Consulting 2013).

There is also a potential that the City of Imperial Beach's 6-inch-diameter wastewater line south of SSTC-South may not be able to accommodate the peak morning flows. It is assumed that the City's entire sewer main to Pump Station 5 (east of the intersection of Dahlia Avenue and Seacoast Drive) would be replaced (Figure 2-5). This would include upgrades to the sewer lines within Silver Strand Boulevard, Calia Avenue, and Seacoast Drive to Pump Station 5. Improvements to the sewer line within Imperial Beach Boulevard from 4th Street to East Lane may also be required.

The Navy and the City of Imperial Beach would ensure that all necessary wastewater improvements are in place prior to operations of Alternative 1 facilities that would trigger thresholds requiring these improvements. Further studies would be performed to determine project phasing and to coordinate with the City of Imperial Beach to refine the timing of the expected wastewater demand. With the installation of the required wastewater improvements, no significant impact would occur.

Approximately 3,045 of the new personnel at SSTC-South would be transferring with the phased construction from NAB Coronado. This would result in a reduction in wastewater demand at NAB Coronado.

Electrical

SDG&E has two 12-kilovolt (kV) circuits, each with a capacity of 4,655-kilowatts (kW) for a total capacity of 9,309 kW. The proposed Coastal Campus would have a total electrical demand of approximately 8509 kW. Electric service for the MILCON projects would be provided by SDG&E from the existing location along SR-75 to Switching Station "S." Switching Station "S" would remain and the existing switchgear is currently sized to accommodate the new electric needs of the site (1,200 amps). It is anticipated that multiple 12 kV loops from the existing switchgear would be required to serve the new NBC Coastal Campus. Each loop should be configured to power half the loads on the loop but with capacity to serve the entire loop from one switchgear breaker as would be required for a temporary basis during a worst-case 15 kV cable failure. Based on the present calculated demand loads of 8,509 kW, two loops with a capacity of 290 amperes or 6,027 kW would adequately serve the Coastal Campus.

Based on full build-out, SDG&E would provide service to supply 9,309 kW. Their existing circuits cannot be operated in parallel, but a single circuit (Circuit 158) has sufficient capacity to accommodate the electric loads added by the first three to four MILCON projects. Each MILCON project thereafter must be submitted to SDG&E for a Load Study and Fuse Request to determine if their system needs to be upgraded. At some point in the future, SDG&E would need to upgrade their system to accommodate all of the MILCON projects. At that time, the proposed electrical upgrades needed to serve the Coastal Campus would be installed within the four existing 4-inch conduits on the eastern edge of SSTC-South. The existing switchgear building (Building S) has sufficient space to accommodate the electrical upgrades. These improvements would not require any ground disturbance.

The use of photovoltaics on the rooftop of the proposed buildings and carports would maximize energy conservation through renewable generation. At this time, it is unknown exactly how much photovoltaics would be used since the building design has not occurred; however, architectural projections estimate that up to 67 percent of rooftop space could be used for photovoltaics.

Further studies would be performed to determine project phasing, coordinate with SDG&E to refine the timing of the expected electrical demand, and to determine the energy reduction due to renewable generation. With the installation of the required electrical upgrades, no significant impact would occur.

Approximately 3,045 of the new personnel at SSTC-South would be transferring with the phased construction from NAB Coronado. This would result in a reduction in electrical demand at NAB Coronado.

Natural Gas

Future gas loads are estimated at 50 million British thermal units (BTUs) to heat approximately 1.5 million square feet. Two metered high-pressure gas lines (0.75-inch and 1.5-inch in diameter) are available near SR-75 and are stubbed out at the south end of the site on Hooper Boulevard and 3rd Street. New natural gas service would be connected to the Hooper Boulevard/3rd Street line to serve the demand from Alternative 1. All improvements would be within the Alternative 1 footprint. In addition, approximately 3,045 of the new personnel at SSTC-South would be transferring with the phased construction from NAB Coronado. This would result in a reduction in natural gas demand at NAB Coronado. No significant natural gas impacts would be expected for Alternative 1.

Communication

The site is served by AT&T from a line that runs north-south along the entire eastern boundary near SR-75 and connects to SSTC-South at the north end of the site. New communication service would be connected from this point to serve the demand from Alternative 1. P-797 would serve as the communication hub for the Coastal Campus. The Navy would build the on-site private communications system to serve the individual buildings within the Coastal Campus from this hub room. New conduits, and copper and fiber-optic facilities would need to be installed. The telephone system should be similar to the system that is installed at NAB Coronado.

For IT delivery, the Coastal Campus would construct a looped Protective Distribution System of underground conduit. Each MILCON would build its associated segment. Copper service can be supplied by AT&T from the existing 4-inch multiple concrete ducts located along SR-75 by the north end of the project. All improvements (additional communication ducts) would be within the Alternative 1 footprint. No significant communication impacts would be expected for Alternative 1.

Storm Water

It appears that the existing site was intentionally graded in a manner to develop low points where runoff collects and ponds in order to evaporate and/or infiltrate. There are no underground drainage facilities and the existing site can accommodate the total amount of runoff without any of it exiting the site. The proposed Coastal Campus drainage design would maintain the existing runoff patterns to the maximum extent practical, retain all of the runoff on-site, and provide infiltration opportunities for all of the runoff that falls on impervious areas. Based on the total impervious area in the post-project condition, the total volume of runoff for the 100-year storm was calculated for this area as approximately 868,855 cubic feet. According to the conceptual design for Alternative 1, there are almost 1,000,000 square feet of parking lots, 600,000 square feet of sidewalks and plazas, 1,050,000 square feet of rooftops, 550,000 square feet of roadways, and 500,000 square feet of laydown areas. To infiltrate all of the volume of runoff from these areas, the majority of these developed areas would need to be pervious. To accomplish this, the project

would need to make approximately 600,000 square feet of sidewalks and plaza pervious using porous concrete, asphalt, or pavers. The sidewalks would require 6 inches of gravel storage underneath to allow it to percolate into the ground. Some of the parking areas should also be pervious utilizing porous concrete, asphalt, or pavers. Since the parking lots can store more runoff than falls on them, runoff from areas that are difficult to construct from pervious materials such as the roadways, laydown areas, and rooftops may be routed to the parking lots to be infiltrated. This analysis is assuming that one-third of the 1,050,000 square feet of rooftop area could be reserved for green roofs. With 12 inches of infiltration material on top of one-third of the buildings, this would infiltrate a portion of the runoff and the rest would be routed to the parking lots for infiltration.

Storm water retention systems would be included adjacent to or underneath the laydown areas and roadways and approximately 8,000 linear feet of 4-foot-diameter perforated pipe or 25,000 square feet of 4-foot-deep vaults would be included. The soil used for the vegetated/planted areas would need to have a high percolation rate, at least 1.25 inches/hour.

If all of the above areas are constructed with pervious materials, the existing percolation rate of the soil is maintained and the appropriate amount of retention area is provided underneath the laydown areas and roadways, the proposed project site would not have any runoff leaving the site. All runoff would percolate into the existing ground and the existing conditions would remain unchanged. All these features would be included within the project footprint and off-site areas would remain untouched. There would not be a significant storm water impact from implementation of Alternative 1.

Public Services

Police

The proposed Coastal Campus would add additional (nonresidential) personnel to SSTC-South, which is currently, and would continue to be, a secured installation. Development would include logistical support buildings, equipment use and maintenance training facilities, classroom and tactical skills instruction buildings, storage, and administrative facilities; utilities; fencing; roads; and parking. Additionally, a new entry control point providing immediate access to SSTC-South from SR-75 would be constructed. Safety conditions on-site would include the installation of appropriate low-level safety and security lighting and security fencing where necessary. The new secured entry control point would restrict and monitor access to the site. The area would continue to be served by NBC Security.

While this would constitute a substantial increase in the number of personnel located in the SSTC-South area, the development of the area for a secured military academic and training campus is generally not the type of use that would generate a substantial increase in the need for new or additional police protection. Thus, the anticipated need for increased public police protection services due to development of Alternative 1 is considered low, and a diminished level or quality of police protection services would not be expected.

Fire Protection

Development of Alternative 1 would result in an increased demand for fire protection due to the new structures and personnel at SSTC-South. However, all facilities would be built to meet all applicable fire codes and regulations, such as the National Fire Protection Association Uniform Fire Code related to fire

suppression and safety. Project design would include appropriate and required fire safety design such as sprinkler systems, fire flow requirements, and all other necessary fire safety design features.

Fire protection service at SSTC-South would continue to be provided by F&ES. Consultation with F&ES was undertaken to determine the potential need for a new fire station to be constructed at SSTC-South for adequate fire protection services for the installation and Proposed Action. The Navy determined that based on emergency response times shown in Table 3.12-2 and in compliance with DoD Instruction 6055.06, some improvements would be needed at the NBC Coastal Campus.

Table 3.12-2. Emergency Response Times from Nearest Emergency Services

Installation	Station	Total Response Time (Minutes)
City of Imperial Beach	14	10:15
NAB Coronado	13	13:01
NASNI	12	17:56

These improvements could include one or more of the following: (1) constructing a new fire station with a structural pumper, an ambulance, and associated staffing, (2) establishing a temporary fire station with firefighting apparatus, an ambulance, and staffing, (3) staging firefighting equipment including an ambulance at SSTC-South, (4) roving firefighting equipment including an ambulance, and (5) obtaining a deviation approval of the DoD Instruction 6055.06. The Navy would continue to work with the Cities of Coronado and Imperial Beach on emergency services with additional potential measures after construction of the initial Coastal Campus facilities. Furthermore, F&ES would continue to be supplemented with mutual aid capability in compliance with OPNAVINST 11320.23g (U.S. Navy 2013b). Based on implementation of one of the proposed improvements identified above and the continued mutual aid support, Alternative 1 would not have a significant impact on fire protection and emergency services.

Solid Waste

Solid waste would be generated during the demolition, construction, and operation of Alternative 1. The highest volume of C&D waste would result from site preparation and demolition of existing structures on the site. Specifically, the demolition of the largest bunker, Building 99, would create a substantial volume of construction debris (up to 49,900 cubic yards), including concrete and steel. However, a large portion of the demolition debris would be recycled or reused as part of the development of Alternative 1. As described in Section 2.1, the Proposed Action would be compliant with EO 13514, the Solid Waste Disposal Act, Solid Waste Management and Resource Recovery Ashore (OPNAV M-5090.1 [January 2014]), and NAVFAC Southwest Request for Proposal (Section 01 74 19.05 20) *Construction and Demolition Waste Management for Installations that use Miramar Landfill* (June 2010). EO 13423 addresses the energy-reduction and environmental performance requirements and specifically addresses increasing waste diversion. The Solid Waste Disposal Act requires federal facilities to comply with all Federal, state, interstate, and local requirements concerning the disposal and management of solid waste and encourages the beneficial reuse of wastes through recycling and incineration for energy recovery. The Solid Waste Management and Resource Recovery Ashore requires reduction of solid waste at the source, diversion, and disposal. Diversion would involve reuse, donation, recycling, composting, chipping,

and mulching to divert the waste stream from the landfill. Disposal would include incineration and, lastly, landfill disposal. C&D activities associated with the Proposed Action would also be compliant with the SSWP and Commander, Navy Region Southwest Instruction 11350.1B requirements.

The NAVFAC Southwest Request for Proposal policy requires the construction contractor(s) to prepare a solid waste management plan that identifies the actions to be taken to reduce solid waste generation, the types and quantities of waste to be generated, actions to be taken to divert at least 60 percent of construction and demolition debris from the waste stream, local and regional reuse programs, materials that cannot be recycled/reused and the justification, and the anticipated net costs savings. C&D debris would first be reused, followed by recycled, and then, as a last option, disposed of as waste at a landfill. Various methods of C&D waste diversion could be used during demolition and construction of Alternative 1, dependent on the exact volume and nature of the material. The construction contractor would be required to prepare a Solid Waste Management Plan as described in Section 3.12.1.3. If material is suitable for reuse, a temporary concrete batch plant could be used on-site. Additionally, concrete and other materials, such as iron and metals, could be taken off-site to industrial recycling facilities for processing. Because of the requirement to recycle/reuse a significant volume of the C&D debris that would be generated by development of Alternative 1, there would not be a significant impact to local landfills as the quantity of C&D waste requiring disposal would be minimized to the greatest extent possible.

Postconstruction trash generation would be increased over existing conditions because of the new facilities and personnel that would be active on-site at SSTC-South. However, the amount of municipal solid waste generated would be minimized through required recycling efforts per Commander, Navy Region Southwest Instruction 5090.2. In addition, most new personnel proposed for the NBC Coastal Campus would be moving from NAB Coronado; therefore, postconstruction trash generation at SSTC-South would be partially offset by the corresponding reduction in trash generation at NAB Coronado. Disposing of solid waste from this alternative at the Miramar Landfill would not be a significant impact because of existing landfill capacity, and the waste flow resulting from Alternative 1 would be minimized through mandatory recycling practices.

Mitigation Measures/Impact Avoidance and Minimization Measures

No mitigation measures or impact avoidance and minimization measures are proposed.

3.12.2.4 Alternative 2 – SSTC-South Bunker Retention Alternative

Impacts

During the initial phases of Alternative 2 construction, there would still be a need to use interim utilities, like septic fields, propane tanks, microwave communication lines, etc. This would continue until coordination with utility agencies is complete and the proposed infrastructure is installed.

Utilities

Water

Alternative 2 proposes the same MILCONs and the same number of new personnel at SSTC-South as Alternative 1. Therefore, the proposed improvements (new water storage tanks and booster pumps, and

relocation of the water pipeline and easement) and water supply impacts (not significant) would be the same as Alternative 1.

Wastewater

Alternative 2 proposes the same MILCONs and the same number of new personnel at SSTC-South as Alternative 1. Therefore, the proposed wastewater improvements (new City of Imperial Beach pipelines, pump station(s) and force main(s) and on-site storage of peak wastewater flows and pumping to the City system during off-peak hours) and wastewater demand impacts (not significant) would be the same as Alternative 1.

Electrical

Alternative 2 proposes the same MILCONs and the same electrical demand at SSTC-South as Alternative 1. Therefore, the proposed SDG&E upgrades (4,655 kW of capacity to at least 9,309 kW) and electrical demand impacts (not significant) would be the same as Alternative 1. The opportunities for use of renewable energy would also be similar to Alternative 1.

Natural Gas

Alternative 2 proposes the same MILCONs and the same potential natural gas demand (50 million BTUs) at SSTC-South as Alternative 1. Therefore, the natural gas impacts would be the same as Alternative 1.

Communications

Alternative 2 proposes the same MILCONs and the same potential communication demand at SSTC-South as Alternative 1. Therefore, the communication impacts would be the same as Alternative 1.

Storm Water

The proposed Alternative 2 drainage design, similar to Alternative 1, would maintain the existing runoff patterns to the maximum extent practical, and retain all runoff on-site (zero discharge) for treatment. All the runoff from the project area would be directed to different types of LID storm water treatment and storage facilities that would remove various pollutants from the runoff, as well as store the storm water for on-site infiltration or evaporation. These design features could include biofiltration swales, dry swales, dry wells, bioretention cells and basins, planter boxes, green roofs, etc. Through the use of LID designs such as disconnection of hardscape surfaces, use of porous pavement, and appropriate architectural elements, the footprint required for dedicated storm water mitigation facilities would be minimized. Collectively, these design features would reduce runoff volume, capture runoff pollutants on-site, provide groundwater recharge, and offer a supplemental resource for irrigation and/or graywater use in facility buildings. There would not be a significant storm water impact from Alternative 2.

Public Services

Police

Similar to Alternative 1, the proposed Coastal Campus development in Alternative 2 would also add additional personnel to SSTC-South and associated structures. Safety conditions on-site would also

include the installation of appropriate low-level safety lighting and security fencing where necessary. The new secured entry control point would restrict and monitor access to the site. The area would continue to be served by NBC Security.

As described for Alternative 1, the development of the area for a secured military academic and training campus is generally not the type of use that would generate a substantial increase in the need for police protection. Alternative 2, similar to Alternative 1, would not create a situation requiring substantial new or additional demand for security services. The anticipated need for increased public police protection services due to development of Alternative 2 is considered low, and a diminished level or quality of police protection services would not be expected.

Fire Protection

Similar to the discussion of Alternative 1, development of Alternative 2 would result in an increased demand for fire protection due to the new structures and personnel at SSTC-South. All facilities would be built to meet all applicable fire codes and regulations and project design would include appropriate and required fire safety design such as sprinkler systems, fire flow requirements, and all other necessary fire safety design features.

As described for Alternative 1, the Navy determined that some improvements would be needed at the NBC Coastal Campus. These improvements could include one or more of the following (1) constructing a new fire station with a structural pumper, an ambulance, and associated staffing, (2) establishing a temporary fire station with firefighting apparatus, an ambulance, and staffing, (3) staging firefighting equipment including an ambulance at SSTC-South, (4) roving firefighting equipment including an ambulance, and (5) obtaining a deviation approval of the DoD Instruction 6055.06. The Navy would continue to work with the Cities of Coronado and Imperial Beach on emergency services with additional potential measures after construction of the initial Coastal Campus facilities. Furthermore, F&ES would continue to be supplemented with mutual aid capability in compliance with OPNAVINST 11320.23g (Commander, Navy Region Southwest F&ES 2013). Based on implementation of one of the proposed improvements identified above and the continued mutual aid support, Alternative 2 would not have a significant impact on fire protection and emergency services.

Solid Waste

Similar to Alternative 1, solid waste would be generated during demolition and construction due to site preparation and demolition of existing structures on the site. However, Alternative 2 proposes retention of Building 99, rather than its demolition. Thus, the high volume of C&D debris (up to 49,900 cubic yards) associated with the demolition of this structure as proposed in Alternative 1 would not result. As described in Section 2.1, Alternative 2 would also be compliant with EO 13514 and EO 13423 specific to waste diversion and would also be compliant with the SSWP and Commander, Navy Region Southwest Instruction 11350.1B requirements.

Various methods of waste diversion could be used during demolition and construction of Alternative 2, dependent on the exact volume and nature of the material. The construction contractor would be required to prepare a Solid Waste Management Plan as described in Section 3.12.1.3. Construction materials would be recycled or reused to the extent feasible and via the most appropriate method, such as on-site reuse or off-site processing. Because of the ability to recycle a significant volume of the construction

debris that would be generated by development of Alternative 2, there would not be a significant impact to local landfills as the quantity of waste requiring disposal would be minimized to the greatest extent possible.

Similar to Alternative 1, postconstruction trash generation would be increased over existing conditions because of the new facilities and personnel that would be active on-site. However, the amount of municipal solid waste generated would be minimized through required recycling efforts per Commander, Navy Region Southwest Instruction 5090.2. In addition, most new personnel proposed for the NBC Coastal Campus would be moving from NAB Coronado; therefore, postconstruction trash generation at SSTC-South would be partially offset by the corresponding reduction in trash generation at NAB Coronado. Disposing of solid waste from this alternative at the Miramar Landfill would not be a significant impact because of existing landfill capacity, and the waste flow resulting from Alternative 2 would be minimized through mandatory recycling practices.

Mitigation Measures/Impact Avoidance and Minimization Measures

No mitigation measures or impact avoidance and minimization measures are proposed.

3.12.2.5 Alternative 3 – Multi-Installation Alternative

Impacts

During the initial phases of Alternative 3 construction, there would still be a need to use interim utilities, like septic fields, propane tanks, microwave communication lines, etc. This would continue until coordination with utility agencies is complete and the proposed infrastructure is installed.

Utilities

Water

Alternative 3 proposes less facilities, less personnel, and slightly less water demand at SSTC-South than Alternative 1. Therefore, the proposed improvements (new water storage tanks and booster pumps and relocation of the water pipeline and easement) and water supply impacts (not significant) would be the same or slightly less than as Alternative 1.

P-904, P-912, and P-965 would be constructed at NAB Coronado within areas previously developed. The existing water infrastructure and service that served the prior development would adequately handle the three new MILCONs (P-904, P-912, and P-965). Similarly, the maintenance and logistics portion of the UAV facility (P-870) would be constructed at NASNI within a previously developed area. The existing water infrastructure and service that serves this area would adequately handle this new MILCON. There would not be a significant water supply impact at SSTC-South, NAB Coronado, or NASNI as a result of development of Alternative 3.

Wastewater

The proposed improvements (new water storage tanks and booster pumps and relocation of the water pipeline and easement) and water supply impacts (not significant) at SSTC-South would be the same or slightly less than as Alternative 1.

P-904, P-912, and P-965 would be constructed at NAB Coronado within areas previously developed. The existing wastewater infrastructure and service that served the prior development would adequately handle the three new MILCONs (P-904, P-912, and P-965). Similarly, the portion of P-870 would be constructed at NASNI within a previously developed area. The existing wastewater infrastructure and service that serves this area would adequately handle this new MILCON. There would not be a significant wastewater impact at SSTC-South, NAB Coronado, or NASNI as a result of development of Alternative 3.

Electrical

The proposed SDG&E electrical upgrades (from 4,655 kW of capacity to at least 9,309 kW) and electrical demand impacts (not significant) at SSTC-South would be the same or slightly less than Alternative 1. The opportunities for use of renewable energy would also be similar to Alternative 1.

P-904, P-912, and P-965 would be constructed at NAB Coronado within areas previously developed. The existing electrical infrastructure and service that served the prior development would adequately handle the three new MILCONs (P-904, P-912, and P-965). Similarly, the portion of P-870 would be constructed at NASNI within a previously developed area. The existing electrical infrastructure and service that serves this area would adequately handle this new MILCON. There would not be a significant electrical demand impact at SSTC-South, NAB Coronado, or NASNI as a result of development of Alternative 3.

Natural Gas

Natural gas impacts at SSTC-South would be the same or slightly less than as Alternative 1.

P-904, P-912, and P-965 would be constructed at NAB Coronado within areas previously developed. The existing natural gas infrastructure that served the prior development would adequately handle the three new MILCONs (P-904, P-912, and P-965). Similarly, the portion of P-870 would be constructed at NASNI within a previously developed area. The existing natural gas infrastructure that served this area would adequately handle this new MILCON. There would not be a significant natural gas demand impact at SSTC-South, NAB Coronado, or NASNI as a result of development of Alternative 3.

Communications

The communication service impacts at SSTC-South would be the same or slightly less than as Alternative 1.

P-904, P-912, and P-965 would be constructed at NAB Coronado within areas previously developed. The existing communication infrastructure that served the prior development would adequately handle the three new MILCONs (P-904, P-912, and P-965). Similarly, the portion of P-870 would be constructed at NASNI within a previously developed area. The existing communication infrastructure that served this area would adequately handle this new MILCON. There would not be a significant communication services impact at SSTC-South, NAB Coronado, or NASNI as a result of development of Alternative 3.

Storm Water

The proposed Alternative 3 drainage design for SSTC-South, identical to Alternative 1, would maintain the existing runoff patterns to the maximum extent practical, and retain all runoff on-site (zero discharge)

for treatment. All the runoff from the project area would be directed to different types of LID storm water treatment and storage facilities that would remove various pollutants from the runoff, as well as store the storm water for on-site infiltration or evaporation. These design features could include biofiltration swales, dry swales, dry wells, bioretention cells and basins, planter boxes, green roofs, etc. Through the use of LID designs such as disconnection of hardscape surfaces, use of porous pavement, and appropriate architectural elements, the footprint required for dedicated storm water mitigation facilities would be minimized. Collectively, these design features would reduce runoff volume, capture runoff pollutants on-site, provide groundwater recharge, and offer a supplemental resource for irrigation and/or graywater use in facility buildings.

P-904, P-912, and P-965 would be constructed at NAB Coronado within areas previously developed. The existing storm water system that served the prior development would adequately handle the three new MILCONs (P-904, P-912, and P-965). Similarly, the portion of P-870 would be constructed at NASNI within a previously developed area. The existing storm water system that serves this area would adequately handle this new MILCON. There would not be a significant storm water impact at SSTC-South, NAB Coronado, or NASNI as a result of development of Alternative 3.

Public Services

Police

The proposed Coastal Campus development in Alternative 3 would result in personnel and associated structures located across three different locations within SSTC-South, NAB, and NASNI within previously developed areas. Safety conditions on-site would also include the installation of appropriate low-level safety lighting and security fencing where necessary. All three installations would continue to be served by NBC Security.

As described for Alternative 1, the development of a secured military academic and training campus is generally not the type of use that would generate a substantial increase in the need for police protection. The use of multiple installations as proposed in Alternative 3 would not create a situation requiring substantial new or additional demand for security services. The anticipated need for increased public police protection services due to development of Alternative 3 is considered low and a diminished level or quality of police protection services would not be expected.

Fire Protection

Development of Alternative 3 would result in an increased demand for fire protection at all three proposed installation locations due to the new structures and increased personnel at those areas. However, all facilities would be built to meet all applicable fire codes and regulations, and project design would include appropriate and required fire safety design such as sprinkler systems, fire flow requirements, and all other necessary fire safety design features.

Fire service would continue to be provided by F&ES. As described for Alternative 1, the Navy determined that some improvements would be needed at the NBC Coastal Campus. These improvements could include one or more of the following: (1) the constructing of a new fire station with a structural pumper, an ambulance, and associated staffing, (2) establishing a temporary fire station with firefighting apparatus, an ambulance, and staffing, (3) staging firefighting equipment including an ambulance at SSTC-South, (4)

roving firefighting equipment including an ambulance, and (5) obtaining a deviation approval of the DoD Instruction 6055.06. The Navy would continue to work with the Cities of Coronado and Imperial Beach on emergency services with additional potential measures after construction of the initial Coastal Campus facilities. Furthermore, F&ES would continue to be supplemented with mutual aid capability in compliance with OPNAVINST 11320.23g (Commander, Navy Region Southwest F&ES 2013). Other development locations on NASNI and NAB would be in developed areas currently served by F&ES. Based on the enhanced fire protection services and appropriate fire suppression and safety features incorporated into structure design of the facilities, Alternative 3 would not have a significant impact on fire protection and emergency services.

Solid Waste

As described for Alterative 2, C&D waste would be generated during the demolition and construction of Alternative 3. Similar to Alternative 2, Alternative 3 would retain Building 99, thereby substantially reducing the amount of C&D. Alternative 3 would be compliant with EO 13514, and EO 13423 specific to waste diversion and would also be compliant with the SSWP and Commander, Navy Region Southwest Instruction 11350.1B requirements.

Construction materials would be recycled or reused to the extent feasible and via the most appropriate method, such as on-site reuse or off-site processing. Because of the ability to recycle a percentage of the construction debris that would be generated by development of Alternative 3, there would not be a significant impact to local landfills as the quantity of waste requiring disposal would be minimized to the greatest extent possible.

Similar to Alternative 1, postconstruction trash generation would be increased over existing conditions because of the new facilities and personnel that would be active on-site. However, the amount of municipal solid waste generated would be minimized through required recycling efforts per Commander, Navy Region Southwest Instruction 5090.2. In addition, most new personnel proposed for the NBC Coastal Campus would be moving from NAB Coronado; therefore, postconstruction trash generation at SSTC-South would be partially offset by the corresponding reduction in trash generation at NAB Coronado. Disposing of solid waste from this alternative at the Miramar Landfill would not be a significant impact because of existing landfill capacity, and the waste flow resulting from Alternative 3 would be minimized through mandatory recycling practices.

Mitigation Measures/Impact Avoidance and Minimization Measures

No mitigation measures or impact avoidance and minimization measures are proposed.

3.12.3 Unavoidable Adverse Environmental Effects

No unavoidable adverse effects on utilities and public services would occur as a result of the Proposed Action.

3.12.4 Summary of Effects

Table 3.12-3 summarizes the effects of the No Action Alternative and the action alternatives on utilities and public services.

Table 3.12-3
Summary of Potential Utilities and Public Services Impacts of Proposed Action Alternatives

Alternative	Effects	Mitigation Measures/Impact Avoidance and Minimization Measures
No Action Alternative	Utilities No effects on utilities. Public Services No effects on public services including police protection, fire protection, and solid waste.	Mitigation Measures None Impact Avoidance and Minimization Measures None
Alternative 1 – SSTC-South Bunker Demolition Alternative (Preferred Alternative)	Utilities *Water* The existing 16-inch/20-inch water line would adequately serve the water demand from Alternative 1 with both domestic and fire services. With the proposed water facility improvements, such as additional water storage tanks and booster pumps, there would not be a significant water supply impact. The existing 16-inch/20-inch water line may need to be relocated. *Wastewater* The City of Imperial Beach's wastewater system may not have capacity to handle the additional peak morning flows. With the installation of the required wastewater improvements (upgrades to the City's system within Silver Strand Boulevard, Calia Avenue, and Seacoast Drive to Pump Station 5 and within Imperial Beach Boulevard from 4th Street to East Lane), no significant impact would occur. *Electrical* Electrical capacity upgrades would be needed to maintain the desired primary/back-up service. The use of renewable energy would be included. With the installation of the required electrical upgrades, there would be no significant impact. *Natural Gas* New natural gas service would be connected to the line at the south gate entrance to serve the demand from Alternative 1. No significant	Mitigation Measures None Impact Avoidance and Minimization Measures None

Alternative	Effects	Mitigation Measures/Impact Avoidance and Minimization Measures
	natural gas impacts would be expected for Alternative 1. *Communication* The site is served by AT&T and a new on-site Navy communication system would be constructed to serve the individual buildings within the Coastal Campus. No communication impacts would be expected for Alternative 1. *Storm Water* The Alternative 1 drainage design would maintain existing runoff patterns to the maximum extent practical, and retain all runoff on-site (zero discharge) for treatment. Runoff would be directed to different types of LID storm water treatment and storage facilities to remove various pollutants from the runoff and to store storm water for on-site infiltration and evaporation. These design features would reduce runoff volume, capture runoff pollutants on-site, provide groundwater recharge, and offer a supplemental resource for irrigation and/or graywater use in facility buildings. No significant storm water impact from Alternative 1 would occur. <u>Public Services</u> *Police* Appropriate safety and security lighting and security fencing would be installed where necessary. No significant police services impact would result. *Fire* Construction of all facilities would meet all applicable fire codes and regulations. Project design would include appropriate and required fire safety design such as sprinkler systems, fire flow requirements, and all other necessary fire safety features. Fire protection and emergency services improvements would include one or more of the following: (1) constructing a new fire station with a structural pumper, an	

Alternative	Effects	Mitigation Measures/Impact Avoidance and Minimization Measures
	ambulance, and associated staffing, (2) establishing a temporary fire station with firefighting apparatus, an ambulance, and staffing, (3) staging firefighting equipment including an ambulance at SSTC-South, (4) roving firefighting equipment including an ambulance, and (5) obtaining a deviation approval of the DoD Fire and Emergency Services Program (DoD Instruction 6055.06). These improvements would be supplemented by continued mutual aid agreements. No significant fire services impact would result. *Solid Waste* Alternative 1 would be compliant with EO 13514, EO 13423, the Solid Waste Disposal Act, Solid Waste Management and Resource Recovery Ashore (OPNAV M-5090.1), and NAVFAC Southwest Request for Proposal *Construction and Demolition Waste Management for Installations that use Miramar Landfill* specific to waste diversion, and with the SSWP and Commander, Navy Region Southwest Instruction 11350.1B requirements regarding C&D debris. C&D debris would be diverted (at least 60 percent) from the landfill waste stream to the extent feasible. Materials would either be recycled or reused through a variety of potential measures dependent on type and volume of material. No significant solid waste impact would result.	
Alternative 2 – SSTC-South Bunker Retention Alternative	<u>Utilities</u> *Water* Similar to Alternative 1, the existing 16-inch/20-inch water line would adequately serve the water demand from Alternative 2 with both domestic and fire services. Also, with the proposed water facility improvements, there would not be a significant water supply impact. The existing 16-inch/20-inch water line may need to be relocated.	<u>Mitigation Measures</u> None <u>Impact Avoidance and Minimization Measures</u> None

Alternative	Effects	Mitigation Measures/Impact Avoidance and Minimization Measures
	Wastewater Similar to Alternative 1, with the installation of the required wastewater improvements (upgrades to the City's system within Silver Strand Boulevard, Calia Avenue, and Seacoast Drive to Pump Station 5 and within Imperial Beach Boulevard from 4th Street to East Lane), no significant impact would occur. *Electrical* Similar to Alternative 1, electrical capacity upgrades would be needed to maintain the desired primary/back-up service, and there would be no significant impact. *Natural Gas* New natural gas service would be connected to the line at the south gate entrance with no significant natural gas impacts. *Communication* The site is served by AT&T and a new on-site Navy communication system would be constructed to serve the individual buildings within the Coastal Campus. No communication impacts would be expected for Alternative 2. *Storm Water* Similar to Alternative 1, the Alternative 2 drainage design would maintain existing runoff patterns to the maximum extent practical, and retain all runoff on-site (zero discharge) for treatment. Runoff would be directed to different types of LID storm water treatment and storage facilities to remove various pollutants from the runoff and to store storm water for on-site infiltration and evaporation. These design features would reduce runoff volume, capture runoff pollutants on-site, provide groundwater recharge, and offer a supplemental resource for irrigation and/or graywater use in facility buildings. No significant storm water impacts would result.	

Alternative	Effects	Mitigation Measures/Impact Avoidance and Minimization Measures
	Public Services *Police* Appropriate safety and security lighting and security fencing would be installed where necessary. *Fire* Construction of all facilities would meet all applicable fire codes and regulations. Project design would include appropriate and required fire safety design such as sprinkler systems, fire flow requirements, and all other necessary fire safety features. Fire protection and emergency services improvements would include one or more of the following: (1) constructing a new fire station with a structural pumper, an ambulance, and associated staffing, (2) establishing a temporary fire station with firefighting apparatus, an ambulance, and staffing, (3) staging firefighting equipment including an ambulance at SSTC-South, (4) roving firefighting equipment including an ambulance, and (5) obtaining a deviation approval of the DoD Fire and Emergency Services Program (DoD Instruction 6055.06). These improvements would be supplemented by continued mutual aid agreements. No significant fire services impact would result. *Solid Waste* Alternative 2 would be compliant with EO 13514, EO 13423, the Solid Waste Disposal Act, Solid Waste Management and Resource Recovery Ashore (OPNAV M-5090.1), and NAVFAC Southwest Request for Proposal *Construction and Demolition Waste Management for Installations that use Miramar Landfill* specific to waste diversion, and with the SSWP and Commander, Navy Region Southwest Instruction 11350.1B requirements regarding C&D debris. C&D debris would be diverted (at least 60 percent) from the landfill	

Alternative	Effects	Mitigation Measures/Impact Avoidance and Minimization Measures
	waste stream to the extent feasible. Materials would either be recycled or reused through a variety of potential measures dependent on type and volume of material. Methods could include a temporary on-site concrete batch plant and/or processing at an off-site industrial recycling facility.	
Alternative 3 – Multi-Installation Alternative	Utilities *Water* Similar to Alternative 1, the existing 16-inch/20-inch water line would adequately serve the water demand from Alternative 3 with both domestic and fire services and with the proposed water facility improvements. There is adequate water at NAB Coronado and NASNI. There would not be a significant water supply impact with Alternative 3. *Wastewater* Similar to Alternative 1, with the installation of the required wastewater improvements (upgrades to the City's system within Silver Strand Boulevard, Calia Avenue, and Seacoast Drive to Pump Station 5 and within Imperial Beach Boulevard from 4th Street to East Lane), no significant impact would occur. There is adequate wastewater capacity at NAB Coronado and NASNI. *Electrical* Electrical capacity upgrades would be needed to maintain the desired primary/back-up service. The use of renewable energy would be included. With the installation of the required electrical upgrades, there would be no significant impact. There is adequate electrical capacity at NAB Coronado and NASNI. *Natural Gas* New natural gas service would be connected to the line at the south gate entrance. There is adequate natural gas capacity at NAB Coronado and NASNI. There would be no significant natural gas impacts	Mitigation Measures None Impact Avoidance and Minimization Measures None

Alternative	Effects	Mitigation Measures/Impact Avoidance and Minimization Measures
	Communication The site is served by AT&T and a new private on-site Navy communication system would be constructed to serve the individual buildings within the Coastal Campus. There is adequate communication service at NAB Coronado and NASNI. No communication impacts would be expected for Alternative 3. *Storm Water* Storm water impacts for Alternative 3 would be the same as Alternative 1 on SSTC-South. The existing storm water systems that served the previous development at NAB Coronado and NASNI would adequately handle P-904, P-912, and P-965 and the portion of P-870, respectively. There would not be a significant storm water impact at SSTC-South, NAB Coronado, or NASNI as a result of development of Alternative 3. <u>Public Services</u> *Police* Appropriate safety and security lighting and security fencing would be installed where necessary. No significant police services impact would result. *Fire* Construction of all facilities would meet all applicable fire codes and regulations. Project design would include appropriate and required fire safety design such as sprinkler systems, fire flow requirements, and all other necessary fire safety features. Fire protection and emergency services improvements would include one or more of the following: (1) constructing a new fire station with a structural pumper, an ambulance, and associated staffing, (2) establishing a temporary fire station with firefighting apparatus, an ambulance, and staffing, (3) staging firefighting equipment including an	

Alternative	Effects	Mitigation Measures/Impact Avoidance and Minimization Measures
	ambulance at SSTC-South, (4) roving firefighting equipment including an ambulance, and (5) obtaining a deviation approval of the DoD Fire and Emergency Services Program (DoD Instruction 6055.06). These improvements would be supplemented by continued mutual aid agreements. No significant fire services impact would result. *Solid Waste* Alternative 3 would be compliant with EO 13514, EO 13423, the Solid Waste Disposal Act, Solid Waste Management and Resource Recovery Ashore (OPNAV M-5090.1), and NAVFAC Southwest Request for Proposal *Construction and Demolition Waste Management for Installations that use Miramar Landfill* specific to waste diversion, and with the SSWP and Commander, Navy Region Southwest Instruction 11350.1B requirements regarding C&D debris. C&D debris would be diverted (at least 60 percent) from the landfill waste stream to the extent feasible. Materials would either be recycled or reused through a variety of potential measures dependent on type and volume of material. No significant solid waste impact would result.	

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3.13 COASTAL USES AND RESOURCES

3.13.1 Affected Environment

3.13.1.1 Region of Influence

The coastal zone for Federal lands is defined as those ocean waters, including bays, adjacent to Federal lands within 3 miles of the mean high tide line; Federal lands above the mean high tide line are not a part of the coastal zone, but activities on those lands can affect coastal uses and resources. Public coastal (beach and ocean) access is currently allowed up to the mean high tide level on the beach unless military operations temporarily restrict use of the beach. The ROI for coastal uses and resources would include the areas where construction and operation of facilities associated with the NBC Coastal Campus would occur and could potentially affect coastal resources assumed to be within 3 miles offshore of the mean high tide line through changes in drainage into San Diego Bay and/or the Pacific Ocean or changes to visual resources of the area.

3.13.1.2 Regulatory Setting

Coastal Zone Management Act

The Coastal Zone Management Act (CZMA) of 1972 (16 U.S.C. § 1451) encourages coastal states to be proactive in managing coastal zone uses and resources. The CZMA established a voluntary coastal planning program, and participating states submit a Coastal Management Plan to NOAA for approval. In compliance with the CZMA, Federal agency actions within or outside of the coastal zone that affect any land or water use or natural resource of the coastal zone must be carried out in a manner that is consistent, to the maximum extent practicable, with the enforceable policies of the approved state management programs. Each state defines its coastal zone in accordance with the CZMA. Excluded from any coastal zone are lands subject by law solely to the discretion of the Federal government or that are held in trust by the Federal government (16 U.S.C. § 1453). The NBC Coastal Campus would be located on property that is under the exclusive control of the Navy and is not open to the public. Although SSTC-South, NAB Coronado, and NASNI are Federal government property, and therefore excluded from the coastal zone, the Navy nonetheless conducted an effects analysis as part of its determination of the NBC Coastal Campus effects for purposes of Federal consistency review in compliance with the CZMA. This was done to factually determine whether the NBC Coastal Campus (even if entirely within a Federal enclave) would affect any coastal use or resource.

2005 Water Quality Control Plan for Ocean Waters of California

The *Water Quality Control Plan for Ocean Waters of California* (Ocean Plan) was created by SWRCB to protect “the quality of the ocean waters for use and enjoyment by the people of the State” (SWRCB 2005). The provisions of the Ocean Plan apply to both point-source and nonpoint-source discharges to the ocean waters of California. The Ocean Plan sets forth water quality objectives and effluent limitations for the oceans of the state. The objectives require discharges to ocean waters (including bays) to meet strict requirements governing the effects of discharge with regard to physical, chemical, and biological characteristics.

3.13.1.3 Coastal Waters

SSTC-South, NAB Coronado, and NASNI have coastlines on both San Diego Bay and the Pacific Ocean. Construction and operation of facilities proposed by any of the Proposed Action alternatives would not directly affect the coastal zone, since all facilities would be above the mean high tide line. However, most of the facilities would be visible from the coastal zone, and drainage from facilities construction and/or operation could affect water quality in the coastal zone.

3.13.2 Environmental Consequences

3.13.2.1 Approach to Analysis

This section focuses on the coastal uses and resources that would affect or be affected by the Proposed Action to the extent practicable, given that the specific location and detailed characteristics of the NBC Coastal Campus (beyond what is presented in Chapter 2.0) would not be finalized until after award of the construction contract(s), consistent with DoN acquisition procedures. This section focuses on those coastal zone resource issues that could typically be affected by the Proposed Action: water quality, visual resources, and public access.

3.13.2.2 No Action Alternative

Impacts

The No Action Alternative would not change existing conditions on SSTC-South, NAB Coronado, or NASNI. No coastal uses or resources would be affected.

Mitigation Measures/Impact Avoidance and Minimization Measures

No mitigation measures or impact avoidance and minimization measures are proposed.

3.13.2.3 Alternative 1–SSTC-South Bunker Demolition Alternative (Preferred Alternative)

Impacts

All drainage from SSTC-South terminates in the coastal waters of either San Diego Bay or the Pacific Ocean, either by sheet flow or storm drain discharge. Water quality impacts that could adversely affect coastal zone resources could occur where this alternative fails to properly control runoff from the construction site during or upon completion of construction. Construction effects on water quality would be temporary and would not be significant, provided there is successful compliance with the water quality conservation measures specified in Section 5.5 and the regulations for protecting water quality described in Section 3.5.1.2. Therefore, implementation of Alternative 1 would not have a significant impact to water quality in San Diego Bay and the Pacific Ocean.

The NBC Coastal Campus would not change public coastal access. Therefore, no impacts to public access would result from implementation of Alternative 1.

In terms of visual resources, while the number of structures proposed for construction would change the density of development within the viewshed, proposed structures for the NBC Coastal Campus would be similar in height (up to 45 feet tall) to existing buildings in the same area, with one exception. The only proposed structure over 45 feet tall would be the paraloft, which would be up to 120 feet tall. While visually compatible with other structures on the site, the height of the paraloft would render it more prominent than other structures in the area. The NBC Coastal Campus is adjacent to the City of Imperial Beach, an urban built-out area. The Proposed Action would change the existing visual setting of SSTC-South, but would not obstruct any public scenic viewsheds and would not result in a significant visual impact. Refer to Section 3.14, Aesthetics, for additional information on visual impacts.

The proposed off-site traffic, access, and utility improvements would involve minimal permanent improvements (roadway widening) to urbanized areas and temporary (pipeline line installation and replacement) impacts to mostly developed areas. These improvements would not result in significant impacts to coastal uses and resources.

The Navy prepared a coastal consistency determination for the proposed NBC Coastal Campus and the CCC concurred with the determination on 12 November 2014 (Appendix E). Overall, Alternative 1 would not have a significant impact to coastal uses and resources.

Mitigation Measures/Impact Avoidance and Minimization Measures

Mitigation Measures

No mitigation measures are proposed.

Impact Avoidance and Minimization Measures

To avoid and minimize impacts to water quality, the measures specified in Section 5.5 and summarized below would be incorporated:

- Implement project-specific SWPPP with BMPs relative to site-specific needs and conditions.
- Include sustainable designs (i.e., LID, energy-efficient design, and integrated layout).

3.13.2.4 Alternative 2–SSTC-South Bunker Retention Alternative

Impacts

Alternative 2 would include the same MILCONs as Alternative 1, but would include retention or adaptive reuse of Building 99. While the location of some structures on SSTC-South and details of design of structures and utilities could be different from Alternative 1, the effects of the action on coastal uses and resources would essentially be the same as described for Alternative 1. The proposed off-site traffic, access, and utility improvements would involve minimal permanent improvements (roadway widening) to urbanized areas and temporary (pipeline line installation and replacement) impacts to mostly developed areas. These improvements would not result in significant impacts to coastal uses and resources. Overall, Alternative 2 would not have a significant impact to coastal uses and resources.

Mitigation Measures/Impact Avoidance and Minimization Measures

Mitigation Measures

No mitigation measures are proposed.

Impact Avoidance and Minimization Measures

To avoid and minimize impacts to water quality, the measures specified in Section 5.5 and summarized in Alternative 1 above would also apply to Alternative 2.

3.13.2.5 Alternative 3–Multi-Installation Alternative

Impacts

Alternative 3 would include the same MILCONs as Alternative 1; however, not all MILCONs would be constructed at SSTC-South, with some MILCONs designated for construction at NAB Coronado and NASNI. With respect to the SSTC-South portion of Alternative 3, while the location of some structures and utilities could be different from Alternative 1, and there would be fewer structures built at SSTC-South under Alternative 3, the SSTC-South structures would be built within the same footprint as Alternative 1, and the effects of the action on coastal uses and resources would essentially be the same as described for Alternative 1 in this location. Alternative 3 would include the retention or adaptive reuse of Building 99 similar to Alternative 2. Off-site road and utility improvement impacts would also be the same as described for Alternative 1.

MILCONs that would be constructed at NAB Coronado and NASNI under Alternative 3 would be located in developed areas. The visual characteristics of those proposed structures would be consistent with characteristics of existing structures in these same locations, would not obstruct any scenic viewsheds, and would not result in a significant visual impact.

Under Alternative 3, construction effects on water quality in the NAB Coronado and NASNI locations would be temporary and would not be significant, provided there was successful compliance with the water quality conservation measures specified in Section 5.5 and the regulations for protecting water quality described in Section 3.5.1.2. Given satisfactory implementation of these requirements and regulations, the potential for construction and operational impacts to water quality in San Diego Bay and the Pacific Ocean at the NAB Coronado and NASNI sites would not be significant.

The construction of additional MILCONs at NAB Coronado and NASNI would not change public access in those areas. Therefore, no impacts to public access would result from implementation of Alternative 3.

Overall, Alternative 3 would not have a significant impact to coastal uses or resources.

Mitigation Measures/Impact Avoidance and Minimization Measures

Mitigation Measures

No mitigation measures are proposed.

Impact Avoidance and Minimization Measures

To avoid and minimize impacts to water quality, the measures specified in Section 5.5 and summarized in Alternative 1 above would also apply to Alternative 3.

3.13.3 Unavoidable Adverse Environmental Effects

No unavoidable adverse effects on coastal uses or resources would occur as a result of implementation of any of the alternatives.

3.13.4 Summary of Effects

Table 3.13-1 summarizes the effects of the No Action Alternative and the three action alternatives on coastal uses and resources.

Table 3.13-1
Summary of Coastal Uses and Resources Effects

Alternative	Effects	Mitigation Measures/Impact Avoidance and Minimization Measures
No Action Alternative	No effects on existing coastal resources; no changes to public access, views, or any coastal uses and resources.	Mitigation Measures: None Impact Avoidance and Minimization Measures: None
Alternative 1 – SSTC-South Bunker Demolition Alternative (Preferred Alternative)	Construction effects on water quality would be temporary and not significant. Alternative 1 would not change public access; therefore, no impacts to public access would result. Alternative 1 would be visually compatible with the existing one- and two-story buildings (up to 45 feet tall), with the exception of a paraloft structure that could be up to 120 feet tall. Existing visual setting would change, but Alternative 1 would not obstruct any scenic public viewsheds. No significant visual impact would result. No significant impacts to coastal uses or resources are anticipated with the implementation of Alternative 1.	Mitigation Measures: None Impact Avoidance and Minimization Measures: Implementation of the water quality measures specified in Section 5.5 and summarized below: • Implement project-specific SWPPP with BMPs relative to site-specific needs and conditions. • Include sustainable designs (i.e., LID, energy-efficient design, and integrated layout).

Alternative	Effects	Mitigation Measures/Impact Avoidance and Minimization Measures
Alternative 2 – SSTC-South Bunker Retention Alternative	Effects would be the same as described under Alternative 1. No significant impacts to coastal uses or resources are anticipated with the implementation of Alternative 2.	Mitigation Measures: None Impact Avoidance and Minimization Measures: Implementation of the water quality measures specified in Section 5.5 and summarized above in Alternative 1.
Alternative 3 – Multi-Installation Alternative	Construction effects on water quality would be temporary and not significant. Alternative 3 would not change public access; therefore, no impacts to public access would result. Alternative 3 would be visually compatible with the existing one- and two-story buildings (up to 45 feet tall), with the exception of a paraloft structure on the SSTC-South portion of the footprint that could be up to 120 feet tall. The existing visual setting would change, but Alternative 3 would not obstruct any scenic public viewsheds. No significant visual impact would result. No significant impacts to coastal uses or resources are anticipated with the implementation of Alternative 3.	Mitigation Measures: None Impact Avoidance and Minimization Measures: • Implementation of the water quality measures specified in Section 5.5 and summarized above in Alternative 1.

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3.14 AESTHETICS

This section addresses potential aesthetic effects of the Proposed Action and includes measures to avoid, minimize, or mitigate potential significant visual impacts associated with construction and operation. Visual resources and potential effects were evaluated using components of the FHWA's Visual Impact Assessment guidelines, and was completed through analysis of field-based photography, a desktop review of GIS-based analysis, and through simulated depictions of the Proposed Action.

The visual resources of an area include the features of its landforms, vegetation, water surfaces, and cultural modifications (physical changes caused by human activities) that give the landscape its visually aesthetic qualities. In this context, visual resources were evaluated by establishing a project viewshed and assessing existing visual character/quality and viewer response to potential change in visual setting. These elements were studied as a point of reference to assess whether the given action would substantially alter surrounding visual character or quality and result in potentially significant visual impacts.

3.14.1 Affected Environment

3.14.1.1 Region of Influence

Project Viewshed

For the action alternatives, the visual resources ROI would be the areas from which the proposed facilities could be readily viewed by the public. With the exception of some traffic, access, and underground utility improvements, all facilities would be within the boundaries of SSTC-South, NAB Coronado, and NASNI, which are reserved for military use. The ROI for visual resources of the Proposed Action includes viewsheds of SSTC-South. The ROI only includes SSTC-South viewsheds as MILCONs associated with action alternatives proposed for NASNI or NAB Coronado would not affect public viewsheds.

The Proposed Action site is visible from the cities of San Diego and Chula Vista across San Diego Bay, from northern parts of the City of Imperial Beach, and from the Coronado Cays community in the City of Coronado north of SSTC-South. Public viewing areas also include SR-75 (from southern terminus of Tunapuna Lane to the southern boundary of SSTC-South) and the Bayshore Bikeway, which approximately parallels SR-75 in this area. SR-75 is on the California list of Officially Designated State Scenic Highways. Public recreational areas near SSTC-South include Silver Strand State Beach, north of SSTC-South on the Pacific Ocean; the Imperial Beach Pier; the Imperial Beach Municipal Beach extending along the ocean shore south of SSTC-south; and San Diego Bay and the Pacific Ocean, east and west, respectively, of SSTC-South.

3.14.1.2 Visual Environment

Existing Visual Character/Quality

Visual character is defined by descriptive attributes in the landscape. Natural and artificial landscape features contribute to the visual character of both regional areas and specific viewpoints. Visual character is influenced by geologic, hydrologic, botanical, wildlife, recreational, and urban features. Urban features

include those associated with development such as structures, roads, utilities, earthworks, and the results of other human activities. The perception of visual character can vary significantly seasonally, even hourly, as weather, light, shadow, and elements that compose the viewshed change. The basic elements used to describe visual character for most visual assessments are the form, line, color, and texture of landscape features. The appearance of the landscape is described in terms of the dominance of these components.

Much of the southern part of SSTC-South is occupied by the decommissioned Naval Radio Receiving Facility with its Wullenweber Antenna Array. The Wullenweber Antenna Array is now decommissioned, and DoN has approved its removal except for a portion (including some of the 100-foot-tall poles) that will be preserved for their historic value. The array consists of rings of concentric poles connected at the top; posts in the tallest and outermost ring are 100 feet high. In the center of the array is a two-story building covering about 12,000 square feet with an access road from the south and parking lots on the west, north, and east. The array is currently the prominent visual feature of SSTC-South, but would be partially removed by the time the proposed NBC Coastal Campus would be constructed.

YMCA Camp Surf, on 45 acres in the southwest corner of SSTC-South, is leased by the Navy to the YMCA. It contains cabins, platform tents, and tent set-up areas. None of the tents or cabins are more than one story high.

A portion of SSTC-South north of the Wullenweber Antenna Array is used for personnel training and training support functions. This part of the installation contains a number of single-story buildings used for administrative, supply and storage, and recreational facilities, and also contains WWII-era bunkers (Building 98, 99, 100, 911, and 912) of the Fort Emory Coastal Defense Historic District. The largest of these bunkers (Building 99) is approximately 45 feet in height.

South of SSTC-South is the urban development of Imperial Beach, consisting of mostly one-and two-story single- and multi-family residences interspersed with commercial and recreational areas. Northeast of SSTC-South, across SR-75, is the upscale residential community of Coronado Cays, with predominantly one- and two-story buildings centered on a marina on San Diego Bay.

With the exception of YMCA Camp Surf, SSTC-South is reserved for military use. San Diego Bay and the Pacific Ocean are used by the Navy for training along the SSTC-South frontages and public access is limited above the mean tide line. Other parts of the bay and ocean are extensively used by pleasure boaters, commercial craft, and Navy ships.

The character of each landscape unit is described below from the perspective of off-base public viewers. The primary viewsheds of SSTC-South are visible to viewers traveling northbound and southbound on SR-75, beach-goers at Silver Strand State Beach and Imperial Beach, and viewers along the Bayshore Bikeway. There is limited visibility of the existing bunkers, from any off-base location, particularly through the mid-site portion between Hooper Boulevard to the north, and the northern extent of the Wullenweber Antenna Array due to existing landform, roadway grading, and vegetation.

Viewer Groups

As discussed previously, development activity surrounding the site is composed of a mixture of public and private lands, commercial uses, streets, and highways. These uses yield the following viewer groups: motorists, recreationists, and residents. Based on the regulatory environment, this analysis focuses

primarily on vehicular and recreational viewer groups as these viewers are likely to be composed of residents, tourists, and patrons.

Viewer Response

Existing Viewer Sensitivity

Viewer sensitivity is used as an evaluation term to discuss viewer concern for, and response to, changes in the visual landscape. The viewer's individual association with the environment can help determine their sensitivity to change as can their activity while viewing, so it is important to determine whether their views are incidental or sought-after. Activities such as commuting in heavy traffic can distract an observer from many aspects of the visual environment. On the other hand, recreational driving can encourage the examination of a landscape at greater length, thereby increasing the observer's attention to detail. For the purposes of this evaluation, sensitivity ratings have been based on viewer group activity and the levels of awareness typically associated with that group.

Existing Viewer Exposure

Viewer exposure is assessed by measuring the number of viewers experiencing potential changes in their visual environment. Those viewers are sorted by type of activity, duration of view, speed at which the viewer is traveling, and the resulting positions of the viewer relative to proposed changes. Typically, viewer exposure would be characterized as low, if less than 100 viewers daily; moderate if between 100 and 1,000 viewers; or high when greater than 1,000 viewers daily. Applied to the highest frequency viewers outlined previously (motorists), viewer exposure for the Proposed Action would be high, as the number would exceed 1,000 daily viewers.

Viewer Awareness

Anticipated viewer awareness is determined based on the degree to which a viewer group is receptive to the visual details, character, and quality of the surrounding landscape. A viewer's ability to perceive the landscape is affected by their activity on the landscape. For example, non-local recreationists may take pleasure in sightseeing and observing the landscape; residents may be strongly attached to the view from their homes; and a commuter travelling through the area may not perceive any change, but may also be as perceptive to the landscape as a resident (ancillary exposure on a daily basis results in mixed reactions and perceptions).

Landscape Units

Coastal Landscape Unit

Viewsheds of the northern portion of SSTC-South are visible from the SR-75 southbound lanes, north of the northern base entrance. Topography of the site and the configuration of SR-75 limit the existing views of base facilities. Traveling south from the State Beach, no base buildings or facilities are currently visible; however, the beach, Pacific Ocean, and Wullenweber Antenna Array are visible. As the viewer approaches the Hooper Boulevard base entrance, the existing topography, including sand dunes occurring within the fenceline; the easterly curvature of SR-75 around SSTC-South; and existing landform grading (berm) along the eastern edge of the base substantially limit the views across the base and of existing facilities on the base. As a result, the angle of observation limits views from the southbound lanes to only the roof of three on-base facilities, the earthen mound of the easternmost bunker, and base fencing. Views become progressively more obstructed at the northern entrance as the existing berm begins; gaining in elevation. From this point, views of on-base facilities are blocked. No views of the

primary base facilities or Pacific Ocean are visible from this vantage point. See Figures 3.14-1 through 3.14-7 for southbound views of the northern portion of the base as viewed from SR-75 and the Bayshore Bikeway.

Figure 3.14-1: Southbound SR-75 view of beach and dunes north of SSTC-South, and Wullenweber Antenna Array in the distance.

Figure 3.14-2: Southbound SR-75 view of northern portion of SSTC-South. Fencing is the dominant characteristic; four facility rooftops and the eastern bunker are visible.

Figure 3.14-3: Southbound SR-75 view of northern portion of SSTC-South and Hooper Boulevard entrance. Fencing is the dominant visual characteristic; limited facility rooftops are visible.

Figure 3.14-4: View facing due west toward Hooper Boulevard entrance from SR-75.

Figure 3.14-5: Southbound Bayshore Bikeway view of SSTC-South eastern berm; all views of base facilities are blocked by existing landform.

Bayside Landscape Unit

As viewers continue south on SR-75 and the Bayshore Bikeway, the berm begins to taper as the landform grading returns to meet existing grade approximately 1,000 feet north of the Wullenweber Antenna Array, or at the approximate midpoint of the base. As illustrated by Figure 3.14-6, viewers have a momentary, partially unobstructed view across SSTC-South to the existing southern bunker before views are again obstructed by the Wullenweber Antenna Array.

Figure 3.14-6: View facing due west from SR-75 toward the existing bunker and middle portion of SSTC-South.

Figure 3.14-7: Southbound Bayshore Bikeway view of southern portion of SSTC-South; only the Wullenweber Antenna Array and Building 1 are visible.

Saltmarsh Vista Landscape Unit

Similar views of the base are visible from the Bayshore Bikeway and points along SR-75 at the southern portion of the base. The dominant landscape features in these views include the Wullenweber Antenna Array, intermittent visibility of existing buildings, and two existing bunkers (one visible in each direction). See Figures 3.14-7 and 3.14-8 for views of the base from the Bayshore Bikeway and SR-75. Views of the base are increasingly limited as the Bayshore Bikeway extends east around the south side of San Diego Bay. Given the activity of recreational viewers and the proximity to the bay, the attention of viewers in this location is more focused on foreground views of saltmarsh and wildlife, as fast-moving traffic and limited development in this portion of SSTC-South limit the number of memorable landscape features on-base. See Figure 3.14-9 for view looking west from the east end of the Bayshore Bikeway east of San Diego Bay. The project site is only partially visible at background viewing distances across the SR-75 right-of-way.

Figure 3.14-8: Northbound SR-75 view from southern boundary of SSTC-South. Wullenweber Antenna Array and other facilities, including a bunker, are visible.

Figure 3.14-9: Westbound view of site from Bayshore Bikeway extending from Main Street on the east side of San Diego Bay. Wullenweber Antenna Array and other facilities are faintly visible. Source: Google Maps (www.maps.google.com) accessed 24 January 2014

Imperial Beach Landscape Unit

Visibility of the base from the Imperial Beach urban area is primarily limited to views directly visible from the SSTC-South southern gate entrance as Silver Strand Boulevard become Hooper Boulevard. More limited views on-base, including the top of the array, are visible between houses and above rooftops along Cherry Avenue. Generally, views from Imperial Beach residences are obstructed by existing vegetation and the masonry boundary fence along the southern boundary of the base; however, limited visibility occurs along Carnation Avenue and the northern terminus of 3rd Street. See Figure 3.14-10 for a typical on-base view from the Imperial Beach neighborhood abutting SSTC-South.

Figure 3.14-10: View facing north along 3rd Street in Imperial Beach from the southern boundary of SSTC-South.

As shown in Figure 3.14-11, the existing base is visible when looking north from the Imperial Beach Pier and the beach area of Imperial Beach near the existing beach access along the southern boundary of SSTC-South. Viewers using this beach entrance to the southwest of YMCA Camp Surf would have partially obstructed views of the Proposed Action; however, the dominant features in this existing viewshed are the YMCA Camp Surf structures and retaining wall, Wullenweber Antenna Array, existing jetty, and lifeguard towers. The distance (approximately 2,800 feet or greater) of the viewer and topography of the base make the features and active facilities of the base minor landscape elements within this viewshed. The base is visible from across the bay in San Diego and Chula Vista; however, the approximately 2-mile viewing distances substantially limit the view of the base and Proposed Action.

Figure 3.14-11: View facing north from beach access to Imperial Beach to the south of YMCA Camp Surf.

Silver Strand Landscape Unit

SSTC-South is periodically visible from Silver Strand State Beach looking south. However, the closest public-access point of the State Beach is approximately 1.1 miles from the SSTC-South boundary. Due to viewer perspective and typical atmospheric distortion from salt spray, the dominant landscape features of this viewshed are primarily the beach itself and Pacific Ocean in the foreground, existing vegetation along SR-75 in the middleground, and Wullenweber Antenna Array and Tijuana hillsides in the background (Figure 3.14-12).

Figure 3.14-12: View facing south along Silver Strand State Beach toward the proposed project at SSTC-South.

3.14.2 Regulatory Setting

3.14.2.1 Naval Special Warfare West Coast Master Plan

The Master Plan (U.S. Navy 2009c) examines existing conditions and situations for the NSW community throughout NBC areas, including SSTC-South, with a primary focus on NSW facilities at NAB Coronado and SSTC-South. The Master Plan includes stated direction and objectives, which include, "Identify long-range conceptual land use and site specific plans that address the following; Context Fit, Visual Attractiveness, Sustainable Design, Standoff Distances, and Parking Requirements." The Master Plan further states that landscaping guidelines are intended to, among other goals, enhance quality of life through aesthetic visual improvement.

3.14.2.2 State of California Streets and Highway Code

The project site is adjacent to SR-75, which is designated as a scenic highway by the State of California. Scenic highways are regulated at the state level by Sections 260–284 of the Streets and Highway Code (State of California 2014). Section 261 of the code requires local agencies to take actions to protect the scenic appearance of the scenic corridor, which includes the land adjacent to the highway right-of-way. These actions may include (1) regulations of land use and intensity (density) of development; (2) detailed land and site planning; (3) control of outdoor advertising; (4) careful attention to and control of earthmoving and landscaping; and (5) the design and appearance of structures and equipment.

3.14.2.3 City of Coronado General Plan

SSTC-South is within the limits of the City of Coronado. The city's Scenic Highway Element of the General Plan (City of Coronado 1994) is local implementation of the Streets and Highways Code Sections 260–284. The element includes goals and strategies to preserve the quality of the scenic resources of the Silver Strand. Goal 3 addresses minimization of the visual intrusion of new construction and remodeling of existing structures.

3.14.3 Environmental Consequences

3.14.3.1 Approach to Analysis

The discussion of visual conditions was described using distance qualifiers; that is, elements observed in the visual environment are discussed relative to their placement in the view as being at a foreground, middleground, and background distance. For the purposes of this assessment, these distance categories were defined as follows:

- Foreground – less than 0.5 mile from the viewer
- Middleground – between 0.5 mile and 1 mile from the viewer
- Background – more than 1 mile from the viewer

To better understand existing conditions and potential viewer response, Key Views were selected based on a composite evaluation of the preceding project and corridor analyses. Five Key Views were selected

for their ability to simultaneously represent existing conditions and authentically depict the proposed effects of project implementation.

When considering potential visual impact, compatibility with surrounding visual character has the greatest influence on how the new element would be perceived by viewers in the landscape. The second primary factor is viewer sensitivity or the extent of viewer concern for, and response to, changes in the visual landscape. The viewer's individual association with the environment can help determine their sensitivity to change as can their activity while viewing, so it was important to determine whether their views are incidental or sought-after. Activities such as commuting in heavy traffic can distract an observer from many aspects of the visual environment while recreational driving can encourage the examination of a landscape at greater length. For the purposes of this evaluation, sensitivity ratings have been based on viewer group activity and the levels of awareness typically associated with that group.

Viewer sensitivity is influenced by the setting: viewers in recreational areas are considered to have high sensitivity to visual change; motorists along SR-75 are considered to have moderate to moderately high sensitivity to visual resources due to the scenic nature of SR-75, and its highway designation. Viewers in commercial, military, and industrial areas are considered to have low sensitivity due to high familiarity with similar visual character. Residential viewers are generally considered to have moderately high to high sensitivity when homes are located adjacent to a future development. However, because private views are generally not accessible to the public, residential viewers were considered as members of other viewer groups (e.g., motorists, recreationalists).

The SSTC-South existing operations include administrative and training facilities that include helicopter activity as part of their existing training and operations; this condition would not be affected under this action. For this reason, visibility and presence of helicopters are considered existing conditions and are not discussed, and effects are not analyzed in this EIS.

SSTC-South, NAB Coronado, and NASNI are military bases used principally for training and support. Viewers on-base currently are, and are likely to remain, primarily military personnel associated with military activities and their support. Therefore, the visual characteristics of the proposed facilities would be consistent with the expectations of, and considered a general improvement by, most on-base viewers; no further discussion of on-base viewers or viewsheds is included.

3.14.3.2 No Action Alternative

Impacts

Under the No Action Alternative, there would be no change in the visual aspects of SSTC-South, NAB Coronado, and NASNI. No significant aesthetic impacts would occur.

Mitigation Measures and Impact Avoidance and Minimization Measures

No mitigation measures and impact avoidance and minimization measures are proposed.

3.14.3.3 Alternative 1 – SSTC-South Bunker Demolition Alternative (Preferred Alternative)

Impacts

Proposed Visual Character/Quality

Implementation of Alternative 1 would consolidate and cluster proposed facilities at SSTC-South, with construction and development of the facilities listed in Section 2.5.2 and shown in Figure 2-3. Facilities would be located in a 161.8-acre area in the northern portion of SSTC-South; Building 99, a WWII-era bunker complex, would be demolished.

Proposed facilities would be clustered consistent with Figure 2-3. With the exception of the paraloft tower at 120 feet tall and potentially several rooftop communication antennas, buildings would be limited in height to 45 feet. This height profile would be consistent with the height of the largest existing facility; however, the footprint would be expanded beyond existing conditions.

A new controlled and signalized entry control point, providing immediate access to SSTC-South from SR-75 and the Bayshore Bikeway (Figure 2-3), would be constructed in the vicinity of the existing Hooper Boulevard entrance at the northern boundary of SSTC-South. The character of this area is defined primarily as that of a divided highway with traditional turn pockets, a right-in/right-out access point to the base, standard right-of-way fencing, and rolling roadside topography. The new entry control point would change the visible character of this area, as this feature and type of use are not present in this location.

The proposed paraloft tower (P-920) would be the most visually prominent structure on-site. As proposed, the paraloft tower would be approximately 120 feet tall, compact and narrow with a footprint of approximately 50 feet by 80 feet. It is anticipated that the paraloft tower would be the most noticeable change to existing conditions, as the massing and scale would be visually incongruent with its surroundings. However, this structure, proposed in the central portion of the Coastal Campus development, would appear visually similar in height to the 100-foot poles composing the existing Wullenweber Antenna Array. The paraloft tower would be constructed under all of the action alternatives to the same height and would be designed as a coordinated architectural feature consistent with other buildings proposed for the site. FAA Advisory Circular 70/7460-1K, Obstruction Marking and Lighting states that obstruction lighting is not normally recommended on structures 200 feet above ground level or less. Should the Navy include obstruction lighting on the paraloft for additional safety, the lights would be red.

Pursuant to existing NBC policies and current management practices, the proposed architectural design would be context-sensitive, visually and physically buffered by landscape treatment, and would be maintained to NBC standards. As proposed, site plans and proposed facility building designs would respect sensitive design parameters related to scenic highway SR-75, and would conform to relevant planning and regulatory documents. On balance, the facilities developed would be consistent in size and scale with the existing historic bunker complex and other buildings present on-site, but would be arranged more densely over a larger portion of the base.

As there is limited off-base visibility of the existing bunkers, demolition of Building 99 would not substantially alter existing views. Traffic, access, and utility improvements off-site would not alter any existing views, though construction activity would draw viewer attention to visual change in the landscape.

Proposed facilities would require installation of operationally required safety lighting in conjunction with facilities and parking areas. This would increase the nighttime ambient lighting of the site and would become a noticeable change in visual conditions. Permanent outdoor lighting would be downward shielded to maximally reduce light pollution into adjacent sites, SR-75, residential communities, and conservation areas. Other methods of reducing light pollution (e.g., dusk-to-dawn sensor activation, low-lumen or limited-spectrum lighting) would be applied wherever possible. Light poles and light placement would be constructed at the lowest height possible (considering security constraints) to reduce effects to the surrounding areas and to reduce light trespass. Increased lighting would be viewed from outside the project as a general low amber glow; this would be a modification of the existing lighting condition but would not substantially negatively influence views from SR-75 into adjacent open space or conservation areas. Locations with views into SSTC-South would experience general low glow from proposed facilities rather than highly visible point-sources of light. Increased lighting conditions and light pollution reduction measures would be consistent among all the alternatives.

The profile and scale of new facilities in the vicinity of the Wullenweber Antenna Array would be comparable with the profile of existing urban development in Imperial Beach as viewed from the Bayshore Bikeway. The paraloft tower would be the most prominent visual change, with all other proposed facilities maintaining a height profile and overall scale consistent with existing development. Ground-level views of the tower would be largely obstructed by existing topography, proposed landscape treatments, and the surrounding campus development. However, given the overall height of the structure, it is anticipated that the paraloft would become visually dominant and present a noticeable change in the landscape.

With the exception of possible improvements to the existing roadway, fencing, and/or utilities, no new development would occur in the southern portion of SSTC-South beyond the area currently occupied by the Wullenweber Antenna Array. The majority of the array will be removed, with a portion of the array maintained pursuant to the 2010 MOA. Removal of this large structure and limited structural development would result in a net positive visual change along SR-75 at this location, as visual clutter and view obstructions would be reduced in the southern portion of the base.

Land use would not be modified by implementation of Alternative 1; however, intensity/density would increase from current levels, but would remain visually consistent with the scale of existing bunkers and buildings. No outdoor advertising would be included with implementation, and earthmoving would be confined to the development envelope.

Change to Visual Character/Quality and Anticipated Viewer Response

Coastal Landscape Unit

Southbound views would be altered by the construction of proposed signalization at the northern access/entry control point from SR-75. Signalization, fencing modification, and addition of a new single-story security structure with multiple access lanes and parking would alter the general appearance of this area. Vehicular viewers in this location would experience short-duration foreground views of the Proposed Action and would notice new traffic controls along SR-75. Viewer sensitivity is anticipated to be low to moderate as proposed project features would not substantially alter existing visual character in this location.

Proposed structures would be visible from southbound SR-75. Viewers traveling along SR-75 would experience foreground, middleground, and background views of the proposed structures. As simulated in Figures 3.14-13 through 3.14-16, new structures, particularly the paraloft tower, would become the most noticeable visual features on-base. The height of new structures would be consistent with the profile of existing buildings; however, the location and number of buildings would increase the overall visibility and bulk of facilities visible from southbound SR-75. The low glow of security lighting would be visible at night but is not anticipated to be obtrusive. Viewer sensitivity would be moderate in this location as visibility of new structures would not block any existing views of the ocean or San Diego Bay.

Figure 3.14-13: Visual simulation of Alternative 1 (Preferred Alternative) as viewed from Silver Strand State Beach.

Figure 3.14-14: Visual simulation of Alternative 1 (Preferred Alternative) as viewed from southbound SR-75.

Figure 3.14-15: Visual simulation of Alternative 1 (Preferred Alternative) as viewed from southbound near the Bayshore Bikeway.

Figure 3.14-16: Visual simulation of Alternative 1 (Preferred Alternative) as viewed facing due west from SR-75 and the Bayshore Bikeway toward proposed noise abatement measures (sand dunes) at Hooper Boulevard.

Bayside Landscape Unit

New structures would be visible from this northbound view; however, the height, bulk, and scale of new structures would be consistent with the profile of the existing buildings and the existing on-site berm. Views of the Proposed Action from northbound lanes of SR-75 and the Bayshore Bikeway would appear to viewers in this location as a minor change from existing conditions of the new structures. The scale and visual dominance of the proposed structures would be perceived as no more visually dominant than the existing base configuration.

Viewers located south of the berm would experience middleground views of the remaining Wullenweber Antenna Array elements and new low-profile structures occupying a portion of the array's current footprint. Removal of the Wullenweber Antenna Array would reduce the appearance of human landscape modifications in the areas south and east of the array, but the addition of new low-profile structures and low-glow of security lighting would be visible at night. Viewer sensitivity would be moderate in this location, as visual changes would be noticeable to viewers on SR-75 and the Bayshore Bikeway. The profile and location of the new structures are simulated in Figures 3.14-17 and 3.14-18.

Figure 3.14-17: Visual simulation of Alternative 1 (Preferred Alternative) as viewed looking directly west from SR-75 and Bayshore Bikeway, north of the array and south of the berm.

Figure 3.14-18: Visual simulation of Alternative 1 (Preferred Alternative) as viewed from Bayshore Bikeway, south of the berm.

The Coastal Campus would be visible as simulated by Figure 3.14-19 at the southeastern corner of SSTC-South adjacent to SR-75. The low glow of security lighting would be visible at night. Viewer sensitivity would be low in this location, as the visibility of new structures would not block existing views or dominate the viewshed.

Figure 3.14-19: Visual simulation of Alternative 1 (Preferred Alternative) as viewed from the southeastern corner of SSTC-South near southbound SR-75 lanes

The paraloft tower would be the most noticeable new structure to approaching northbound vehicles due to the structure height. At middleground or background viewing distances, the paraloft tower would appear vertically congruent with the Wullenweber Antenna Array poles in the foreground view, and would occupy only a narrow portion of the viewshed.

North of the berm, the visibility of structures would remain limited as it is currently. Based on the geometry of the site and location of proposed new structures, it is anticipated that the visibility of new structures would be limited and would not dominate the viewshed. Signalization at the northern entry control point would be visible and noticeable to viewers along northbound SR-75 and the Bayshore Bikeway. Views would not be substantially altered, though the presence of new traffic controls would introduce urbanizing elements into a generally undeveloped landscape. See Figure 3.14-17 through Figure 3.14-19 for visual simulations of proposed Alternative 1 structures as viewed from south of the berm along the Bayshore Bikeway and SR-75.

Saltmarsh Landscape Unit

Viewers along the Bayshore Bikeway adjacent to SR-75 would experience long-duration middleground and background views of the Proposed Action similar to those described under the Coastal and Bayside Landscape Units. Partially obstructed views of new structures, including the paraloft tower, would be visible from the Bayshore Bikeway across the SR-75 corridor, but would not dominate the viewshed or

obstruct existing scenic view corridors. Viewer sensitivity would be moderate in this location, as recreational viewers would experience views of longer duration due to rate of travel. See Figures 3.14-16, 3.14-17, and 3.14-18 for a visual simulation of proposed Alternative 1 structures as viewed from the Bayshore Bikeway.

Imperial Beach Landscape Unit

No modifications are proposed to the SSTC-South south gate entrance, with the exception of possible improvements to the existing roadway, fencing, and/or utilities. All new structures would be located in the mid- and northern portions of the site and would not be visible from the Imperial Beach urban area, except intermittently between houses along Cherry Avenue, and at the northern terminus of 3rd Street as depicted in Figure 3.14-20.

Future traffic improvements at three intersections along SR-75 (Palm Avenue) in Imperial Beach would result in minor visual alterations to the existing setting. Restriping, lane widening, and ramp widening would create temporary and long-term visual modifications. However, this area is currently an urban setting with highway on- and off-ramps and substantial street right-of-ways. Future traffic improvements would modify the existing visual setting but not modify the character of the intersections. Off-site wastewater and sewer line improvements would create temporary changes in the visual setting for residences in Imperial Beach, but improvements would not result in long-term modification of existing views.

Figure 3.14-20: Visual simulation of Alternative 1 (Preferred Alternative) as viewed from the northern terminus of 3rd Street in Imperial Beach, at the southern boundary of SSTC-South.

Viewers from the beach area of Imperial Beach and the Imperial Beach Pier would notice the new facilities with partially obstructed foreground views; however, at middleground and background viewing

distances, the Proposed Action would appear visually congruous with its surroundings, as depicted in Figure 3.14-21.

Figure 3.14-21: Visual simulation of Alternative 1 (Preferred Alternative) as viewed from the northern terminus of 3rd Street in Imperial Beach, at the southern boundary of SSTC-South.

Based on the visibility of existing structures from the east side of San Diego Bay, see Figure 3.14-9, changes to the viewshed from across the bay in San Diego and Chula Vista would not be a discernible modification based on the height profile of new structures, the modest scale of new development, and the distance from the viewer. Views would not be substantially altered.

Silver Strand Landscape Unit

New structures would be visible from viewpoints along the beach; however, the scale of new structures would be comparable with the vertical profile of existing structures and vegetation and adjacent Imperial Beach urban development. Limited necessary security lighting at night would be visible as a low glow. As such, the visual experience would not be substantially altered in this location (Figure 3.14-22).

Figure 3.14-22: Visual simulation of Alternative 1 (Preferred Alternative) as viewed looking south along Silver Strand State beach.

Modification of views from the Coronado Cays residential area would be similar to those described in the *Coastal Landscape Unit* subsection above. The existing berm running longitudinally along SR-75 substantially obstructs views of base facilities and the Pacific Ocean from viewpoints surrounding Coronado Cays. New structures, including the paraloft tower, and necessary security lighting would have limited visibility from the Coronado Cays; however, existing visual buffering and proposed landscape treatments would limit the perceived change in visual environment and substantially limit potential intrusion of headlight glare from vehicles using the Hooper Boulevard (proposed northern entry control point) to SSTC-South. Viewer sensitivity in this location would be moderate.

Conclusion

Implementation of Alternative 1 would require moving heavy equipment, occasional construction rigging equipment, construction traffic, and visible elements including stockpiled materials, earthwork, erosion control measures, and temporary structural elements such as forms or falsework. Given the dynamic, temporary nature of construction operations; the existing topography; and anticipated construction phasing, no visual impact is anticipated during construction. Though viewers would likely notice site disturbances during construction, the Proposed Action would not result in permanent aesthetic impacts.

Alternative 1 would result in a noticeable change to existing conditions on-base from viewpoints along SR-75, the Bayshore Bikeway, the Coronado Cays, and Silver Strand State Beach. Southbound views would be particularly altered by the Proposed Action, as the appearance of the base would include several additional structures, new landscape treatments, and a paraloft tower surrounded by lower roofline profiles.

Despite the partial visibility of Alternative 1, the Proposed Action would not substantially alter the scale of existing development on the project site; obstruct existing views of the Pacific Ocean or San Diego Bay; or substantially degrade the surrounding visual character or quality of the site. As such, implementation of Alternative 1 would maintain compliance with the five legislatively required elements for official scenic highways (under Section 261 of the Streets and Highways Code) and would not affect the Scenic

Highway designation of SR-75. In conclusion, the change to existing visual character/quality would not be substantial, dramatic, adverse, or controversial, and no significant aesthetic impact would occur if avoidance and minimization measures are implemented as proposed.

Mitigation Measures and Impact Avoidance and Minimization Measures

Mitigation Measures

Because implementation would not have a significant impact to aesthetics, no mitigation measures are proposed.

Impact Avoidance and Minimization Measures

Design of the buildings would complement the appearance of surrounding areas by including:

- Context-sensitive architectural treatments, applied consistently throughout the development
- Low-reflectivity building materials in natural, earth-tone colors;
- Shielding of permanent outdoor lighting installed at proposed facilities to limit light trespass and ambient light pollution to achieve dark-sky compliance to the extent possible. (Additional methods to reduce light pollution [e.g., dusk-to-dawn sensor activation, low-lumen or limited-spectrum lighting] applied as possible; light poles and light placement placed at lowest height practical [considering security constraints]); and
- Context and water-sensitive landscape treatments, including visual buffers consisting of earthen berms, vegetated buffers, screening trees and right-of-way landscape improvements along public-facing adjacencies; to be approved (by NBC NRO staff).

3.14.3.4 Alternative 2 – SSTC-South Bunker Retention Alternative

Impacts

Facilities developed under Alternative 2 would be the same as those discussed under Alternative 1; however, Building 99 would not be demolished. Development layout, structure heights, project scale, and operational and security lighting would be the same as Alternative 1.

As there is limited visibility of the existing bunkers, retention of Building 99 would not affect project viewsheds. Development under this alternative would have a similar effect due to the same number of facilities being developed on a similar footprint.

Coastal Landscape Unit

Southbound SR-75 views would be altered by the construction of the controlled and signalized entry control point and addition of new structures and lighting to a similar degree as Alternative 1. Effects on viewers would be similar to those of Alternative 1. Views of the northern portion of the site would not be substantially altered.

Bayside Landscape Unit

Effects to northbound viewers along SR-75 would be similar to those of Alternative 1. Views of the southern portion of the site would not be different compared with the viewsheds described for Alternative 1.

Saltmarsh Landscape Unit

Views from the Bayshore Bikeway would be similar to those described in the Alternative 1 southbound and northbound SR-75 discussions.

Imperial Beach Landscape Unit

Views would not be substantially altered. Views/visibility from the Coronado Cays would be similar to Alternative 1. Views/visibility from the residential area of Imperial Beach would be similar to Alternative 1. Views at three Imperial Beach intersections may be temporarily altered for street improvements but would not result in long-term modification of the character of the area.

Silver Strand Landscape Unit

Based on the distance of the beach viewer (looking north and south) and topography of the Base, the viewshed would not be substantially altered and would be similar to Alternative 1.

Conclusion

Similar to Alternative 1, implementation of Alternative 2 would require the use of heavy equipment and other contractor vehicles and visible activity typical of construction, but these activities would be temporary. The completed project area would be cleaned up and landscaped after construction. Many viewers would be likely to find site disturbance during construction unsightly, but no permanent aesthetic impacts from construction would occur.

Alternative 2 would result in the modification of viewsheds from SR-75, the Bayshore Bikeway, the Coronado Cays, and Silver Strand State Beach. Modifications to the viewshed of the northern portion of the site would be similar to Alternative 1. The proposed development appearance would create a more intense visual appearance. Viewshed modifications would be similar to Alternative 1, and the modifications are not anticipated to be perceived as substantial, dramatic, adverse, or controversial. Thus, no significant aesthetic impact would occur.

Mitigation Measures and Impact Avoidance and Minimization Measures

Mitigation Measures

No mitigation measures are proposed.

Impact Avoidance and Minimization Measures

Design of the buildings would complement the appearance of surrounding areas and include the same measures discussed under Alternative 1.

3.14.3.5 Alternative 3 – Multi-Installation Alternative

Impacts

Similar to Alternative 1, Alternative 3 would be composed of general facility requirements, as described in Table 2-1 and Table 2-2. Four of the proposed facilities would be located at the NAB Coronado and NASNI sites; the other facilities would be developed at the SSTC-South site within the same developable area as Alternative 1. Development would be less dense, as fewer facilities would be erected in the same developable area. The bulk, height, and scale of buildings would be similar to the description in the discussion of Alternative 1.

Alternative 3 would retain Building 99. As there is limited visibility of the existing bunkers, retention of Building 99 would not substantially modify viewsheds.

Implementation of Alternative 3 would result in the addition of fewer new facilities in the developable area at SSTC-South. Thus, modification to views from SR-75, the Bayshore Bikeway, residential areas, and Silver Strand State Beach would all be similar to or slightly less than those described in Alternative 1.

Modification to views at NAB Coronado and NASNI would be insubstantial, as those base locations are currently characterized as nearly built out. Addition of one to two facilities at these locations, in areas previously developed, would not be a change in character or perceptible to the average viewer.

Implementation of Alternative 3 would require the use of short-term heavy equipment and contractor services for construction. The visibility and duration would be similar to those described under Alternative 1. No permanent aesthetic impacts from construction would occur.

Conclusion

Similar to Alternative 1, Alternative 3 would result in the modification of viewsheds from SR-75 and the Bayshore Bikeway. The level of modification would be somewhat reduced because fewer facilities would be erected in the same developable area. Retention of Building 99 would not affect viewsheds.

The addition of limited facilities at NAB Coronado (P-904, P-912, and P-965) and NASNI (portion of P-870) would not affect viewsheds of those installations. The existing developed character of these sites would not be affected by addition of four new facilities. Modifications to viewsheds are not anticipated to be substantial, dramatic, adverse, or controversial. No significant aesthetic impacts would occur.

Mitigation Measures and Impact Avoidance and Minimization Measures

Mitigation Measures

No mitigation measures are proposed.

Impact Avoidance and Minimization Measures

Design of the buildings would complement the appearance of surrounding areas and include the same measures discussed under Alternative 1.

3.14.4 Unavoidable Adverse Environmental Effects

No unavoidable adverse effects on aesthetics would result from implementation of any of the alternatives.

3.14.5 Summary of Effects

Table 3.14-1 summarizes the effects of the No Action Alternative and the three action alternatives.

Table 3.14-1
Summary of Aesthetic Effects

Alternative	Effects	Mitigation Measures/Impact Avoidance and Minimization Measures
No Action Alternative	No effect on aesthetics.	Mitigation Measures: None Impact Avoidance and Minimization: None
Alternative 1 – SSTC-South Bunker Demolition Alternative (Preferred Alternative)	Alternative 1 would modify viewsheds from SR-75, the Bayshore Bikeway, the Coronado Cays, and Silver Strand State Beach. It would create a more intense visual appearance, including increased nighttime lighting conditions, primarily from southbound SR-75 approaching the north gated entry control point. Viewshed modifications are not anticipated to be perceived as substantial, dramatic, adverse, or controversial; no significant aesthetic impact would occur.	Mitigation Measures: None Impact Avoidance and Minimization: Design of the buildings would complement the appearance of surrounding areas by including: • Context-sensitive architectural treatments; applied consistently throughout the development • Low-reflectivity building materials in natural, earth-tone colors; • Shielding of permanent outdoor lighting installed at proposed facilities limit light trespass and ambient light pollution to achieve dark-sky compliance to the extent possible. (Additional methods to reduce light pollution [e.g., dusk-to-dawn sensor activation, low-lumen or limited-spectrum lighting] applied as possible; light poles and light placement placed at lowest height practical [considering security constraints]); and • Context and water-sensitive

Alternative	Effects	Mitigation Measures/Impact Avoidance and Minimization Measures
		landscape treatments, including visual buffers consisting of earthen berms, vegetated buffers, screening trees, and right-of-way landscape improvements along public-facing adjacencies; to be approved (by NBC NRO staff).
Alternative 2 – SSTC-South Bunker Retention Alternative	Similar to Alternative 1, Alternative 2 would modify viewsheds from SR-75, the Bayshore Bikeway, the Coronado Cays, and Silver Strand State Beach. The Alternative 2 appearance would create a more intense visual appearance, including increased nighttime lighting conditions. Viewshed modifications would be similar to Alterative 1 and the modifications are not anticipated to be perceived as substantial, dramatic, adverse, or controversial; no significant aesthetic impact would occur.	Mitigation Measures: None Impact Avoidance and Minimization: • Design of the buildings would complement the appearance of surrounding areas and include the same measures discussed under Alternative 1.
Alternative 3 – Multi-Installation Alternative	Similar to Alternative 1, Alternative 3 would modify viewsheds from SR-75, the Bayshore Bikeway, the Coronado Cays, and Silver Strand State Beach. The Alternative 3 appearance would create a more intense visual appearance, including increased nighttime lighting conditions. Viewshed modifications would be similar to Alterative 1 and the modifications are not anticipated to be perceived as substantial, dramatic, adverse, or controversial; no significant aesthetic impact would occur. Modification to views at NAB Coronado and NASNI would be insubstantial as those base locations are currently characterized as nearly built out. Addition of one to two facilities at these locations would not be a change in character or perceptible to the average viewer, and no significant aesthetic impact would occur.	Mitigation Measures: None Impact Avoidance and Minimization: Design of the buildings would complement the appearance of surrounding areas and include the same measures discussed under Alternative 1.

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CHAPTER 4.0
CUMULATIVE IMPACTS

4.1 PRINCIPLES OF CUMULATIVE IMPACTS ANALYSIS

The approach taken to analyze cumulative impacts (or cumulative effects) follows the objectives of NEPA of 1969, CEQ regulations, and CEQ guidance. CEQ regulations (40 C.F.R. Parts 1500–1508) provide the implementing procedures for NEPA. The regulations define "cumulative effects" as "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time" (40 C.F.R. § 1508.7).

CEQ provides guidance on cumulative impacts analysis in Considering Cumulative Effects under the National Environmental Policy Act. This guidance further identifies cumulative effects as those environmental effects resulting "from spatial and temporal crowding of environmental perturbations. The effects of human activities will accumulate when a second perturbation occurs at a site before the ecosystem can fully rebound from the effects of the first perturbation." Noting that environmental impacts result from a diversity of sources and processes, this CEQ guidance observes that "no universally accepted framework for cumulative effects analysis exists," while indicating that certain general principles have gained acceptance. One such principle provides that "cumulative effects analysis should be conducted within the context of resource, ecosystem, and community thresholds—levels of stress beyond which the desired condition degrades." Thus, "each resource, ecosystem, and human community must be analyzed in terms of its ability to accommodate additional effects, based on its own time and space parameters." Therefore, cumulative effects analysis normally will encompass geographic boundaries beyond the immediate area of the Proposed Action alternatives, and a timeframe including past actions and foreseeable future actions, to capture these additional effects. Bounding the cumulative effects analysis is a complex undertaking, appropriately limited by practical considerations. Thus, CEQ guidelines observe, "[i]t is not practical to analyze cumulative effects of an action on the universe; the list of environmental effects must focus on those that are truly meaningful."

4.1.1 Identifying Geographical Boundaries for Cumulative Impacts Analysis

Geographical boundaries or ROI for analyses of cumulative impacts in this EIS vary for different resources and environmental media. For air quality, the potentially affected air quality region is the appropriate boundary for assessment of cumulative impacts from releases of pollutants into the atmosphere. For terrestrial biological resources, the area in which Proposed Action activities occur, or are proposed to occur, is the appropriate geographical area for assessing cumulative impacts. For wide-ranging or migratory wildlife, such as certain butterfly and bat species, and migratory birds, any impacts from the Proposed Action alternatives might combine with impacts from other sources within the ranges of each population.

4.1.2 Past, Present, and Reasonably Foreseeable Future Actions

Identifiable effects of actions occurring in the past and present are analyzed, along with reasonably foreseeable future actions to assess additive impacts of the Proposed Action alternatives. In general, the Navy need not list or analyze the effects of individual past actions; cumulative impacts analysis of past actions focus on aggregate effects. Reasonably foreseeable future actions that may have impacts additive to the effects of the Proposed Action are also analyzed, and are listed in Table 4-1.

Table 4-1
Past, Present, and Reasonably Foreseeable Future Projects
in the NBC Coastal Campus EIS ROI

No.	Project	Description	Status
1	NASNI, NBC Lodge Expansion	Demolition of four existing Navy lodge buildings and several smaller structures, and construction of a lodge building and cottages to increase room capacity; construction of recreation facilities, parking lots, road upgrades, retail shops, a restaurant, landscaping, and utility upgrades.	Past
2	The Marina at NAB Coronado, NBC	Erosion control, restoration of deteriorated marina facilities, and enhancement and expansion of existing recreational functions of the marina at NBC.	Past
3	Sixth and Orange Drainage Improvements	The City of Coronado conducted drainage studies and improvements for the Fourth and Alameda drainage basin and the Sixth and Orange drainage basin.	Past
4	Beach Public Safety and Restrooms	Replacement of the Silver Strand State Beach Central Beach Lifeguard Tower and restroom construction.	Past
5	Wastewater Master Plan	A City of Coronado plan for sewer main replacement, rehabilitation of the Cays main pump station, and Margarita Avenue sewer main replacement.	Past
6	Seacoast Inn Project	Part of Imperial Beach redevelopment plan to increase investment to the downtown areas. Consists of the building of a four-story, 78-room, 111-subterranean parking space hotel/condo structure.	Past
7	Development of Home Port Facilities for the Three NIMITZ-Class Aircraft Carriers in Support of the Pacific Fleet	Construction and operation of facilities and infrastructure needed to support the capacity to homeport three NIMITZ-class nuclear-powered aircraft CVNs within the U.S. Pacific Fleet.	Past

No.	Project	Description	Status
8	AIMS Cable Array Installation	A cable array to extend from a proposed building on the Naval Radio Receiving Facility inland, onto the beach, into the water on oceanside SSTC-South, and within the boat lanes.	Past
9	USFWS Refuges Comprehensive Conservation Plan	Addresses topics of resources management, visitor use, refuge operations, and development in general terms.	Past
10	NBC Small Arms Range	Installation of a small arms firing range at NBC.	Past
11	RM09-0701 – Runway Repair at NOLF IB	A project commenced in January 2011 to replace asphalt and repair concrete on Runway 27 and the helicopter pads at NOLF IB. Construction on Runway 27 temporarily concentrated helicopter activity on the northern runway.	Past
12	Roadway Preventive Maintenance	Slurry seal of one-sixth of the City of Coronado's streets. Slurry seal is a thin mixture consisting of fine sand, water, and emulsified asphalt applied to asphalt.	Past
13	Palm Avenue Mixed Use and Commercial Corridor Master Plan	City Council approved (2009) the right-of-way improvements for the Palm Avenue/SR-75 corridor focused on improving pedestrian safety and walkability, enhancing the corridor's overall aesthetics and appearance, and improving functionality of the vehicular corridor while maintaining acceptable traffic levels of service in order to create a "main street" environment.	Past
14	Bicycle Transportation Plan and Eco Route Bikeway Project and General Plan/ Local Coastal Program Amendment	City Council approved a Bicycle Transportation Plan with policies for bicycle facilities and route designations, and an Administrative Coastal Development Permit for a traffic calming improvement plan from 7th Street to 3rd Street.	Past
15	Final EIS for the Introduction of the P-8A Multi-Mission Maritime Aircraft into the U.S. Navy Fleet	The home-basing of 12 P-8A Fleet Squadrons and one Fleet Replacement Squadron at established maritime patrol home bases. The P-8A is being introduced to replace the aging P-3C Orion aircraft. Currently, P-3C patrol squadrons have periodic detachments at NASNI.	Past
16	Advanced Training Command Relocatable Habitable Unit Immersion Training Village	Installation of relocatable habitable units with no foundation work required and no utilities at SSTC-South. Ten to 12 units installed in village configuration for advanced live-scenario training.	Past

No.	Project	Description	Status
17	City of Imperial Beach Commercial Zoning Review/Update	A comprehensive update of all three of the City's commercial zones that was approved by the City Council in 2012. The Zoning Update included the C/MU-1 Zone extending along Palm Avenue/SR-75 from the boundary with the City of Coronado to the City of San Diego. The City prepared a Draft Program Environmental Impact Report for this General Plan/Local Coastal Plan and Commercial Zoning Amendments Project.	Past
18	Bikeway Village Project and General Plan/Local Coastal Program Amendment	City Council approved (2012) a General Plan/Local Coastal Program Amendment for the conversion/adaptive reuse of two approximately 15,000-square-foot warehouse structures on Florence and 13th streets and on vacant parcel at the northern terminus of 13th Street.	Past
19	City of Imperial Beach Breakwater Shopping Center	A 46,200-square-foot retail shopping center at the southwest corner of 9th Street and Palm Avenue/SR-75 was approved in 2011.	
20	Silver Strand Training Complex EIS	Ongoing Naval training, testing, and evaluation activities within SSTC-South or in proximity to the southern beaches at NASNI. Components include continuing current training activities, increasing training tempo and types of training, conducting existing routine training at additional locations within SSTC-South established training areas, and increasing access to and availability of existing beach and inland training areas.	Past
21	Repair and Upgrade to California American Water Company Water Line	A leak in the existing 20-inch water line required the water main to be excavated, a 6-foot section of pipe removed, and a 20-inch gate valve to be installed. A 2-inch temporary service line had to be installed to maintain water service.	Past
22	Current, Emerging, and Future Training Operations in the Southern California (SOCAL) Range Complex	Within the SOCAL Range Complex, continuation of training, an increase in training activities, force structure changes associated with introduction of new weapons systems, new classes of ships, and the introduction of new types of aircraft into the Fleet.	Past
23	Fiber Optic Cabling Connection Project	The City of Coronado plans an interconnection of the main sewer pump stations for monitoring purposes and future automated control.	Present

No.	Project	Description	Status
24	U.S. Navy Lighterage	Construction of a Waterfront Command and Control Facility for Amphibious Construction Battalion One facilities to support the introduction of the improved Navy Lighterage System at NAB Coronado.	Present
25	Camp Surf Improvements	Leased area held by the YMCA will undergo improvements to existing structures on the YMCA Camp Surf site within the SSTC-South fenced area. These improvements would include a new skate park; new lifeguard tower; a modular-unit home; and replacement of the seawall, dining structure, and the perimeter fence.	Present
26	Coronado Cays Storm Drain Rehabilitation Phase III	Repair of storm drains in the Coronado Cays that show failed joint lines, non-storm-related flow, and heavy debris and soil buildup within the lines.	Present
27	Dredging and Sand Replenishment Projects	San Diego Bay maintenance dredging was conducted; future projects such as SANDAG's Regional Beach Sand Replenishment Project are in planning stages for the City of Imperial Beach. Specific information on projects can be found on websites maintained by the projects' lead agencies, including USACE.	Present
28	Hawaii-Southern California Training and Testing EIS/Overseas EIS	Training and testing activities to be conducted within existing range complexes and operating areas located along the southern California coast (SOCAL Range Complex) and around the Hawaiian Islands. Activities would include sonar maintenance and gunnery exercises.	Present
29	MH-60 EA	The introduction of the MH-60S aircraft meets the Navy's need to support EOD MU-11 in its activities at SSTC. The Navy must ensure that adequate hangar, training, maintenance, and personnel support facilities are available to meet production and delivery schedules, and to satisfy operational commitments.	Present
30	Naval Special Warfare Indoor Shooting Range (P-876)	Construction of an indoor shooting range at SSTC-South. The shooting range will include two buildings; one building will be a two-story facility for the range, the other building will be a one-story building for administrative space and classrooms.	Present

No.	Project	Description	Status
31	Minehound Training Lanes	Establishment of training lanes for the identification and evaluation of improvised explosive devices at SSTC-South. Training would involve use of ground penetrating radar and metal detector.	Present
32	SSTC-South Main Gate Upgrades	Installation of reliable, maintainable, and cost-effective AT/FP Ashore Systems at the existing SSTC-South main gate. This would include an automated vehicle gate system with monitors, fencing, gate arms, and light poles. During construction, the main gate would remain open. Postconstruction, the gate would have guards during peak hours and would be remotely operated during non-peak hours.	Present
33	Fitness Complex (P-705), NASNI	Construction of a new fitness complex (90,000 square feet) and liberty center (17,000 square feet).	Present
34	Golf Maintenance Compound, NASNI	Replacement of inadequately sized and deteriorated golf course maintenance facility with two 4,000-square-foot maintenance buildings within a 42,000-square-foot maintenance yard.	Present
35	Boat Storage Facility (P-896), NAB Coronado	Construction of a 20,000-square-foot covered boat storage facility.	Present
36	Replace Doors for Building 100, SSTC-South	Installation of a new inner door to meet fire protection needs and keep existing historic door on the exterior of Building 100.	Present
37	Glorietta Bay Marina	Dredging of the marina and installation of new docks.	Reasonably Foreseeable
38	Mobile Security Forces and Naval Special Clearance Team-One Pier and Boat Ramp	Provision of facilities for the co-location of two new commands at NASNI, the Mobile Security Forces and the Naval Special Clearance Team-One, including construction of a pier, boat ramp, and several buildings; paving; site improvements with security fencing and lighting, landscaping, and irrigation; and a paved vehicle storage yard.	Reasonably Foreseeable
39	Hotel del Coronado Master Plan	Expansion of Hotel del Coronado to have additional meeting space, additional guest rooms, and changes to parking and circulation. Improvements to Avenida del Sol are planned and will occur with the expansion of the meeting space and guest rooms.	Reasonably Foreseeable

No.	Project	Description	Status
40	Homebasing of the MK-VI Patrol Boats for Coastal Riverine Group One (CRG-1) at NAB Coronado	The MK-VI Patrol Boat (MK-V PB) is the Navy's next generation patrol boat and will become part of the Navy Expeditionary Combat Command's fleet of combatant craft. The MK-VI PB is an 85-foot boat with a hull designed to optimize performance, fuel economy and firepower. Facilities upgrades will be required to support berthing.	Reasonably Foreseeable
41	Maintenance Pier Dredging at NASNI and NAB Coronado	Maintenance pier dredging surrounding Piers Bravo, J, K, L, M, N, O, and P at NASNI and piers around NAB Coronado.	Reasonably Foreseeable
42	Lock and Leave Facility, NASNI	Construction of a storage facility (75,000-square-foot area) capable of containing 1,200 storage units.	Reasonably Foreseeable
43	Steam Decentralization Project, NASNI	Decentralization of the steam distribution system throughout NASNI.	Reasonably Foreseeable
44	Bachelor Quarters (P-730), NASNI	Construction of bachelors quarters housing to meet the Navy's policy to house single sailors on shore vice onboard ship or off base.	Reasonably Foreseeable
45	Sign and marker replacement project, SSTC-North and NAB Coronado.	Replacement of beach marker signs and various structures along SR-75.	Reasonably Foreseeable
46	Coronado Cays Fire Station Parking Lot/Generator Replacement	Rehabilitate the parking lot and replace an undersized generator.	Reasonably Foreseeable
47	Coronado Cays Entrance/bike Improvements	Install improvements at the entrance to the Cays to reduce conflicts between motorists and bicyclists.	Reasonably Foreseeable
48	Coronado Toll Plaza Improvements	Conceptual plan for landscape improvements and traffic metering.	Reasonably Foreseeable
49	Coronado Cays and Glorietta Force Mains Bypass and Inspection Ports	Install bypass and inspection ports in the force mains.	Reasonably Foreseeable
50	Palm Avenue and Carnation Avenue Street End Project	Port of San Diego project that would improve and enhance coastal access to and along the beach at the ends of these streets. Palm Avenue improvements have been constructed. Carnation Avenue portion, located at the south end of SSTC-South adjacent to YMCA Camp Surf, is dependent upon the Navy granting a 20-foot easement, which is yet to be funded.	Reasonably Foreseeable
51	Bernardo Shores Condominium Development	A 203-unit condominium development in Imperial Beach, north of SR-75, east of Rainbow Drive, with access from SR-75 at Rainbow Drive.	Reasonably Foreseeable

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4.2 CUMULATIVE IMPACTS ANALYSIS

4.2.1 Land Use and Recreation

Cumulative impacts on land use would consist of the effects of the Proposed Action in combination with other projects, actions, and processes that would result in incompatible land use changes, interference with existing recreation areas, or restrictions of public access to beaches. The Proposed Action alternatives would include activities that are consistent with long-established military land uses at SSTC-South, NAB Coronado, and NASNI, and therefore would not introduce any land use substantially different from the current land uses. The proposed uses would be more intense but still compatible with existing uses on SSTC-South and with all Navy planning documents, and would not adversely affect adjoining, existing land uses within the ROI either on or off the installation. The proposed uses at NAB Coronado and NASNI would be compatible with existing uses. The NBC Coastal Campus project would not change or impact current or planned recreation or public access. Therefore, when added to the impacts from other potentially cumulative projects, the Proposed Action would not result in significant cumulative impacts to land use and recreation.

4.2.2 Geology and Soils

Cumulative impacts on terrestrial NBC geology and soils would consist of the combined effects of the NBC Coastal Campus projects and other Navy actions at SSTC-South, NAB Coronado, and NASNI that alter the local topography or disturb surface soils. Periodic removal of excess sand under the Wullenweber Antenna Array would serve to maintain the existing topography along the southwestern edge of SSTC-South. New construction projects would remove ground cover; disturb surface soils; alter surface drainage patterns; and, by increasing the ground coverage of impervious surfaces, increase the volume of surface water flows during storms. These new activities, along with elements of the proposed NBC Coastal Campus (see Section 3.2), could contribute locally and incrementally to increased sediment transport and deposition. BMPs for soil-disturbing activities, such as drainage and road improvements, would be implemented for any construction activity. Therefore, when added to the impacts from other potentially cumulative projects, the Proposed Action would not result in significant cumulative impacts to geology and soils.

4.2.3 Air Quality

As described in Section 3.3 of this EIS, construction of the Proposed Action would result in the emission of local and regional air pollutants, but would not directly result in a significant impact. The Proposed Action would conform to the SIP and would not require a conformity determination in compliance with Section 176(c) of the CAA. Due to the temporary nature of construction emissions, regional construction emissions from the Proposed Action in conjunction with the development of the projects listed in Table 4-1 would not result in a cumulatively significant impact. Moreover, implementation of the recommended fugitive dust control measures would ensure that all PM emissions from proposed construction and operational activities within the project region, in combination with any reasonably foreseeable future emissions source, would not produce significant cumulative effects. With these measures, temporary dust associated with construction would be confined to the site area and would not cumulatively interact with dust generated from other projects.

The Proposed Action would have negligible TAC emissions and would not result in a direct or cumulatively significant impact.

In addition to health hazard pollutants, other natural and human-made air pollutant emissions, known as greenhouse gases or GHGs, have been determined to contribute to global climate change. The following section includes a discussion of GHGs and climate change, a summary of applicable GHG regulations, and a discussion of GHG emissions due to the Proposed Action and potential impacts related to climate change.

Greenhouse Gases/Global Climate Change

The potential effects of proposed GHG emissions are global and cumulative impacts, as individual sources of GHG emissions, are not large enough to have an appreciable effect on climate change. Therefore, an appreciable impact on global climate change would only occur when proposed GHG emissions combine with GHG emissions from other human activities on a global scale. Since GHG emissions from the Proposed Action would equate to such a minimal amount of the U.S. inventory, they would not substantially contribute to global climate change.

Scientists are in general agreement that Earth's climate is gradually changing, and that change is due, at least in part, to emissions of CO_2 and other GHGs from human sources. The anticipated magnitude of global climate change is such that a significant cumulative impact on global climate exists.

EO 13514, Federal Leadership in Environmental, Energy, and Economic Performance, was signed by President Obama on 5 October 2009. EO 13514 defines three scopes of emissions: Scope 1: direct GHG emissions from sources that are owned or controlled by a Federal agency; Scope 2: direct GHG emissions resulting from the generation of electricity, heat, or steam purchased by a Federal agency; and Scope 3: GHG emissions from sources not owned or directly controlled by a Federal agency, but related to agency activities such as vendor supply chains, delivery services, and employee travel and commuting. EO 13514 calls for GHG emissions reductions from Federal agencies, which are required to establish 2020 reduction targets and develop a Strategic Sustainability Performance Plan within a certain time period. DoD has been submitting Strategic Sustainability Performance Plans for several years with specific targets for reductions of Scope 1, 2, and 3 emissions. The most current Strategic Sustainability Performance Plan is for Fiscal Year 2012 (DENIX 2012).

On 21 May 2010, the U.S. Navy prepared a memorandum, Navy Climate Change Roadmap, which provides a list of Navy actions to assess, predict, and adapt to global climate change from FY 2010–2014. Following climate change guidance in the 2010 Quadrennial Defense Review, the Navy Climate Change Roadmap is an extension of the Navy Arctic Roadmap (U.S. Navy 2010).

EO 13514 contains a specific provision addressing documents related to NEPA. Federal agencies must advance regional and local integrated planning by identifying and analyzing impacts from energy usage and alternative energy sources in all EISs and EAs for proposals for new or expanded Federal facilities under NEPA.

The CEQ provides draft guidance for Federal agencies to consider of the effects of GHG emissions and climate change in their evaluation of Federal actions under NEPA. The *Draft NEPA Guidance on Consideration of the Effects of Climate Change and Greenhouse Gas* (CEQ 2010) recommends

quantification of GHG emissions, and proposes a reference point of 25,000 metric tons of CO_2e emissions. The CEQ indicates that use of 25,000 metric tons of CO_2e emissions as a reference point would provide federal agencies with a useful indicator, rather than an absolute standard of significance, for agencies to provide action-specific evaluation of GHG emissions and disclosure of potential impacts (CEQ 2010).

In the absence of formally adopted thresholds of significance for project GHG emissions, this EIS compares the net annual GHG emissions from the Proposed Action (i.e., construction, operation, and maintenance of the proposed facilities) to the No Action Alternative.

Project GHG emissions are primarily due to construction activities, which are temporary and short term; GHG emissions from the operation and maintenance of the constructed facilities would be minimal on an annual basis. Table 4-2 summarizes the annual project GHG emissions of CO_2 associated with the Proposed Action, which would be similar for Alternatives 1, 2, and 3. The GHG emissions of CO_2 were calculated during the Proposed Action's emissions modeling of criteria pollutants (Section 3.3.2.1) and detailed in Appendix B, in tons/year, which were converted to CO_2e (in metric tons) with a conversion rate of 0.907 metric tons per ton in Table 4-2.

Table 4-2
Estimated Greenhouse Gases of the Proposed Action

	Estimated GHG Emissions
Annual project GHG emissions of CO_2 (tons/year)	1,153
Annual project GHG emissions of CO_2e (metric tons/year)	1,047
CEQ meaningful assessment indicator of CO_2e (metric tons/year)	**25,000**

Source: CEQ 2010

As shown in Table 4-2, estimated annual GHG emissions for the Proposed Action, expressed as CO_2e, is 1,047 metric tons, which is primarily due to short-term temporary construction and a minimal net annual increase when compared to the No Action Alternative. In addition, the project GHG emissions are substantially below the CEQ meaningful assessment indicator of 25,000 metric tons per year of CO_2e. Therefore, the Proposed Action would not substantially contribute to global climate change, and GHG emissions from the Proposed Action would not be significant.

Although the Proposed Action would not contribute substantially to cumulative impacts associated with global climate change, this important topic warrants discussion from Navy leadership about broad-based programs to reduce energy consumption and shift to renewable and alternative fuels, thereby reducing emissions of CO_2 and other GHGs.

The Secretary of the Navy established several goals for reducing the Navy's consumption of fossil fuels:

- Mandate that energy usage, efficiency, life-cycle costs, and other such factors be part of the Navy's decision when acquiring new equipment or systems, as well as vendor efficiency or energy policies;

- Cut petroleum use by half in the Navy's fleet of commercial vehicles by 2015 by phasing in new hybrid trucks to replace older ones;

- Procure half the power at Navy shore installations from alternative energy sources, including wind or solar, by 2020 and, where possible, supply energy back to the grid, as the Navy does today at Naval Air Weapons Station China Lake, California; and

- Reach the point that half the energy used throughout the Navy, including in ships, aircraft, vehicles, and shore stations, comes from alternative fuel or alternative sources by 2020. Today that percentage is about 17 percent.

These examples illustrate the leadership role that the Navy has in achieving energy reductions, which will contribute to the national effort to mitigate global climate change. The Proposed Action's buildings and facilities would be designed following established principles of sustainability, thereby meeting the standards set forth in EO 13423, EO 13514, and the EISA, as well as applicable Navy guidelines and regulations. The NBC Coastal Campus would include the design of an integrated layout, along with thermal and photovoltaic solar systems (on the rooftop of the proposed buildings and carports).

In addition to assessing the GHG emissions that would come from the Proposed Action and the potential impact on climate change, the effect of climate change on the Proposed Action and what adaptation strategies would be developed in response is also assessed. This is a global issue for DoD. As is clearly outlined in the Quadrennial Defense Review Report of February 2010 (DoD 2010), DoD will need to adjust to the impacts of climate change on facilities and military capabilities. DoD already provides environmental stewardship at hundreds of DoD installations throughout the United States and around the world, working diligently to meet resource efficiency and sustainability goals set by relevant laws and EOs. Although the United States has significant capacity to adapt to climate change, it will pose challenges for civil society and DoD alike, particularly in light of the nation's extensive coastal infrastructure. In 2008, the National Intelligence Council judged that more than 30 U.S. military installations were already facing elevated levels of risk from rising sea levels. DoD operational readiness hinges on continued access to land, air, and sea training and test space. Consequently, DoD must complete a comprehensive assessment of all installations to assess the potential impacts of climate change on its missions and adapt as required (DoD 2010).

The Quadrennial Defense Review Report illustrates that DoD will work to foster efforts to assess, adapt to, and mitigate the impacts of climate change. Domestically, DoD will leverage the Strategic Environmental Research and Development Program, a joint effort among DoD, the Department of Energy, and USEPA, to develop climate change assessment tools.

Based on sea level rise predictions, sea level rise could cause flooding in some of the low-lying southern coastal areas of SSTC-South. Global projection changes range from 1- to 4-foot rises in sea levels by 2100 (Garfin, Franco, Blanco, Comrie, Gonzalez, Piechota, Smyth, and Waskom 2014). Figure 4-1 shows the current mean higher high water levels for SSTC-South. Figures 4-2 through 4-5 show the 1-foot through 4-foot projected mean higher high water levels, respectively. The Coastal Campus would be

Source: NOAA Sea Level Rise Inundation Map Serviceshttp://noaa.maps.arcgis.com

No Scale

Figure 4-1
Current Mean Higher High Water Level at SSTC- South

Source: NOAA Sea Level Rise Inundation Map Serviceshttp://noaa.maps.arcgis.com

No Scale

Figure 4-2
1 Foot Rise Above Higher High Water Level at SSTC- South

Source: NOAA Sea Level Rise Inundation Map Serviceshttp://noaa.maps.arcgis.com

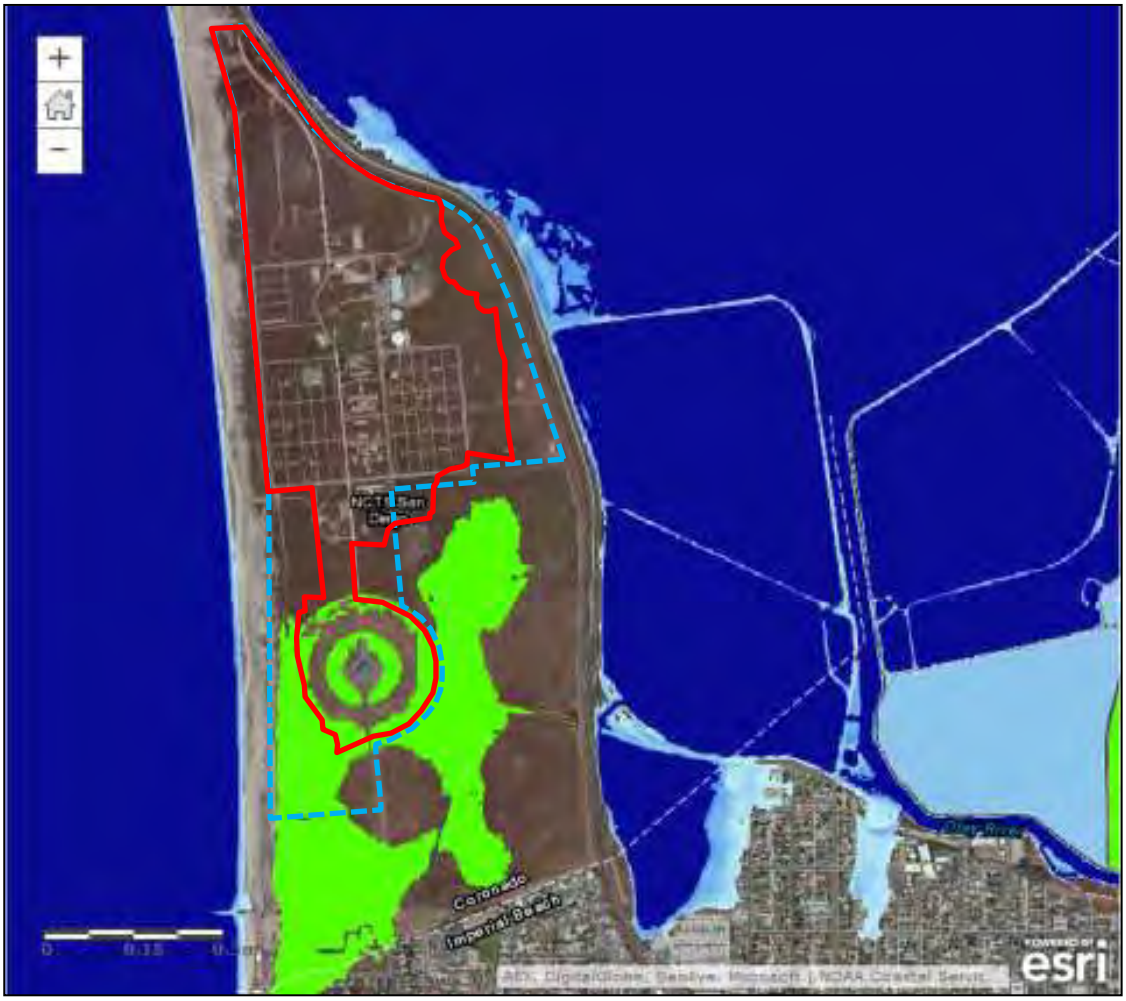
No Scale

Figure 4-3
2 Foot Rise Above Higher High Water Level at SSTC- South

Source: NOAA Sea Level Rise Inundation Map Serviceshttp://noaa.maps.arcgis.com

No Scale

Figure 4-4
3 Foot Rise Above Higher High Water Level at SSTC- South



Source: NOAA Sea Level Rise Inundation Map Serviceshttp://noaa.maps.arcgis.com

No Scale

Figure 4-5
4 Foot Rise Above Higher High Water Level at SSTC- South

located at an elevation above the area potentially exposed to sea level rise for all but the projected 4-foot rise. The proposed development within the Wullenweber Antenna Array area would be inundated under the 4-foot rise by 2100. As a result, no climate change-related sea level rise impacts would be anticipated at the proposed facilities through the year 2050. DoD also released the 2014 Climate Change Adaptation Roadmap (DoD 2014) which included three broad adaptation goals:

- Goal 1: Identify and assess the effects of climate change on the DoD.
- Goal 2: Integrate climate change considerations across the DoD and manage associated risks.
- Goal 3: Collaborate with internal and external stakeholders on climate change challenges.

As the science of climate change advances, the DoD and Navy will regularly reevaluate climate change risks and opportunities in order to develop policies and plans to manage its effects on the DoD's operating environment, missions, and facilities.

4.2.4 Hazardous Materials and Waste

Cumulative impacts of hazardous materials would consist of the effects of the NBC Coastal Campus and other proposed projects, actions, and processes in the ROI that would use large quantities of hazardous materials, or that would otherwise affect the hazardous materials management system. The ROI for hazardous materials is SSTC-South, NAB Coronado, and NASNI, and local hazardous waste recycling and treatment, storage, and disposal facilities, and regional transportation networks that link the region to more distant treatment, storage, and disposal facilities.

The Proposed Action would likely increase the use of hazardous materials (see Section 3.4). However, the Navy's existing hazardous materials and hazardous waste management systems, which are responsible for safely storing and transporting these materials, would be able to accommodate the anticipated increases and would have no adverse effects. The primary impact of hazardous materials use would be an increase in the amounts of petroleum products, or other chemicals that are released during construction and operations. Hazardous materials used on land by non-Navy activities in the vicinity of NBC consist of fuels and other petroleum products that include paint, adhesives, glues, and other coatings, as well as other materials used in construction projects (see Table 4-1). Some hazardous materials could be stored in bulk on construction sites. Use of these materials is closely regulated by local, state, and Federal agencies, and off-site release of substantial quantities of these items is rare. The overall risk of a substantial release of such materials from the NBC Coastal Campus or other projects is low. Hazardous waste generated during operational activities of the NBC Coastal Campus would be managed as part of the overall hazardous waste stream at NAB Coronado.

Other hazardous waste generators in the region, along with the Navy, would require the services of hazardous waste transporters and treatment, storage, and disposal facilities. While the costs for hazardous waste transport, treatment, storage, and disposal could increase in response to increased cumulative demand, the hazardous waste management industry in the region has sufficient physical capacity to respond to this increased demand. Therefore, when added to the impacts from other potentially cumulative projects, the Proposed Action would not result in significant cumulative impacts to hazardous materials and hazardous waste.

4.2.5 Water Quality and Hydrology

Potential cumulative impacts on SSTC-South, NAB Coronado, and NASNI water quality would consist of the aggregate effects of the NBC Coastal Campus and other military and civilian projects and activities on and adjacent to these three installations. Water quality is affected by a relatively high water table and by various sources in the area: leaks and spills from motor vehicles, seepage from sewer lines, release of other pollutants, and the use of pesticides. Navy compliance with Federal and state regulations would minimize any water quality impacts. Overall, the Proposed Action, in conjunction with other past, present, and reasonably foreseeable future projects, would not result in significant cumulative impacts to water resources.

4.2.6 Noise

Cumulative impacts on the acoustical environment would consist of the effects of the NBC Coastal Campus when added to other projects, actions, and processes that would result in an increase in intrusive noise sources, a substantial long-term increase in average ambient noise levels, or a substantial increase in the number of impulsive sound events. The ROI for the acoustical environment consists of SSTC-South, NAB Coronado, and NASNI, and adjacent public areas. Under the NBC Coastal Campus, construction activities could result in an occasional intrusive noise event, but hourly sound levels would not generally be affected. Operation activities would increase ambient noise levels on SSTC-South, NAB Coronado, and NASNI; however, the increase would not be substantial and would not result in an incompatible land use, or violate Federal, Navy, state, regional, or local noise standards or requirements. Therefore, cumulative effects from these increases in noise levels would be minimal. NBC is home to two naval air installations: NASNI and NOLF IB. Helicopters flying in and out of NOLF IB and between NASNI and NOLF IB (via north/south routes along San Diego Bay or the Pacific Ocean) for training generate several hundred helicopter flights per day. Although most of the flights occur offshore over the bay or ocean, the helicopter traffic contributes to the background noise level in the vicinity of SSTC-South, NAB Coronado, and NASNI.

Several local construction projects would generate short-term intrusive noise. Traffic volume increases on major roads would be insufficient to substantially affect long-term background noise levels. Traffic noise in the ROI from the NBC Coastal Campus, and in combination with other proposed new sources of vehicular traffic, would be minimal. Therefore, when added to the impacts from other potentially cumulative projects, the Proposed Action would not result in significant cumulative impacts to noise.

4.2.7 Biological Resources

The combined biological impacts of the NBC Coastal Campus are discussed in Section 3.7 of this EIS. All Federal activities within SSTC-South potentially affecting federally protected species and habitats would be subject to ESA Section 7 consultation. The Navy initiated consultation on 28 April 2014 and USFWS issued an Informal Consultation Concurrence Letter (FWS-SDG-14B0200-14I0295) on 12 September 2014 (Appendix E). The reasonable and prudent measures, terms and conditions, and conservation recommendations included in the informal consultation determination will be implemented. In addition, NBC, in concert with USFWS, has established plans and conditions throughout SSTC-South to protect, preserve, and conserve natural resources to minimize significant cumulative impacts. These conditions are identified in several BOs issued by USFWS, Navy training and operations guidelines, and the NBC INRMP. The most sensitive species and habitats on SSTC-South are protected through these procedures

and policies, and construction and conservation measures based on previous BOs have been incorporated into the mitigation section for biological resources (Section 5.7).

Implementation of the NBC Coastal Campus in conjunction with other projects within the SSTC-South, NAB Coronado, and NASNI vicinity could result in the cumulative loss of biological resources in the form of vegetation, habitat, and species. The area of influence where cumulative impacts could occur varies among the resources affected. Due to the restricted range of several species on SSTC-South, NAB Coronado, and NASNI, the potential for cumulative impacts from various projects and actions across the geographic range of a species is possible when viewed from a population perspective. Future cumulative impacts could result from the collective loss of species habitat over time. The NBC Coastal Campus is not anticipated to contribute to cumulative impacts to federally listed plants or wildlife because no occupied habitat would be permanently, directly impacted. Although there are permanent and temporary indirect impacts associated with the NBC Coastal Campus, these are not anticipated to contribute to the loss of federally listed species or occupied habitat, and, therefore, would not contribute to cumulative impacts.

4.2.8 Cultural Resources

Cumulative impacts on cultural resources would consist of the effects of the NBC Coastal Campus in combination with other projects, actions, and processes that would result in potential impacts on cultural, archaeological, and historic sites. Under Alternative 1, one historic structure (Building 99) eligible for listing in the NRHP as a contributor to the Fort Emory Coastal Defense Historic District would be demolished. Unavoidable adverse effects to the historic district would be resolved in compliance with Section 106, which includes consultation with SHPO and other consulting parties and development and execution of an MOA. Under Alternatives 1, 2, and 3, proposed off-site traffic, access, and utilities improvements have the potential to affect currently unknown or buried resources. Mitigation is proposed that would provide for cultural resources Inventory of off-site project locations, preparation and implementation of a monitoring and discovery plan, archaeological monitoring during ground-disturbing activities, and protocols for the handling of the accidental discovery of human remains. This proposed mitigation would minimize the potential for the project to add to the cumulative loss or destruction of cultural resources.

Projects listed in Table 4-1 that are ground-disturbing or that alter, repair, or improve historic buildings, structures, or objects have the potential for cumulative effects. Similar to the NBC Coastal Campus, the cumulative projects would also be subject to all federal, state and local regulations—as appropriate—mandating the protection of cultural resources. Impacts would typically be mitigated thorough avoidance or data recovery.

As dictated by the NHPA, the Navy is obligated to protect its own historic properties in a way that emphasizes preservation and minimizes the impact of undertakings that might individually or cumulatively adversely affect such properties. Off-site NBC Coastal Campus and cumulative projects must comply with CEQA, NEPA, NHPA, and all other cultural federal, state, and local regulations that require analysis and appropriate mitigation of impacts to cultural resources. Therefore, while individual effects may be adverse, the Proposed Action, when added to the impacts from other potentially cumulative projects, would not result in significant cumulative impacts to cultural resources.

4.2.9 Traffic and Circulation

Implementation of the NBC Coastal Campus would generate an increase in vehicle trips in Year 2024. The increase at each of the study intersections indicates that all but ten of the study intersections would operate at an acceptable LOS with the addition of NBC Coastal Campus traffic:

- Glorietta Boulevard and Fourth Street (SR-75)
- Fourth Street (SR-75) and Pomona Avenue
- Orange Avenue (SR-75) and Fourth Street (SR-75)
- **Silver Strand Boulevard (SR-75) and Tulagi Road**
- **Silver Strand Boulevard (SR-75) and Rainbow Drive**
- **7th Street and Silver Strand Boulevard (SR-75)**
- Palm Avenue and Rainbow Drive
- **9th Street and Palm Avenue (SR-75)**
- **13th Street and Palm Avenue (SR-75)**
- **19th Street and Palm Avenue (SR-75)**

Six of the ten intersections would have a significant impact due to implementation of NBC Coastal Campus and are shown in **bold**. The intersections on Fourth Street would have a decrease in delay and, therefore, would not be considered to have a significant impact. Traffic generation associated with military and civilian projects that are completed, in progress, or planned for development in Coronado and Imperial Beach, detailed in Table 4-1, have been factored into SANDAG's traffic forecasts. Therefore, while individual projects would contribute to traffic generation on roadways affected by the NBC Coastal Campus, regional-level planning has taken place as part of the NBC Coastal Campus traffic analysis provided in Section 3.9 to consider associated traffic levels. Increased traffic from three NIMITZ-Class aircraft carriers was included in the NBC Coastal Campus traffic analysis. Therefore, when added to the impacts from other potentially cumulative projects, the Proposed Action would not result in significant cumulative impacts to traffic and circulation.

4.2.10 Socioeconomics and Environmental Justice

Cumulative impacts on socioeconomics, environmental justice, and protection of children would consist of the effects of the NBC Coastal Campus in combination with other projects, actions, and processes that would result in effects on regional employment, income, housing, or infrastructure. Implementation of the NBC Coastal Campus would not result in an increase in permanently stationed personnel or employees at NBC. Despite an increase in support facilities, these personnel are already at NBC. Therefore, existing regional population and associated housing impacts, employment rates, and regional economy would largely remain unchanged as a result of implementation of the NBC Coastal Campus. In addition, implementation of the NBC Coastal Campus would not create any disproportionately high and adverse human health or environmental effects on minority or low-income populations, nor would the safety risks disproportionately affect children. The NBC Coastal Campus would not contribute to cumulative effects in the region because of its lack of effect on regional employment, income, housing, and infrastructure. Therefore, when added to the impacts from other potentially cumulative projects, the Proposed Action would not result in significant cumulative impacts to socioeconomics and environmental justice.

4.2.11 Public Health and Safety

Cumulative impacts on public health and safety would consist of the aggregate effects of the NBC Coastal Campus and other projects, actions, and processes that could increase risks to people within the ROI. The ROI for public health and safety consists of SSTC-South and adjacent public areas. Effects would include danger from proximity to construction vehicles and equipment. Construction activities would be confined to the SSTC-South, NAB Coronado, and/or NASNI boundaries and would not expose the public to health and safety risks. The Navy has specific and documented procedures in place to ensure that nonparticipants are not endangered by Navy operational actions. The incremental impacts of the NBC Coastal Campus would not represent any appreciable contribution to cumulative health and safety risks when added to other past, present, and reasonably foreseeable future actions. Therefore, when added to the impacts from other potentially cumulative projects, the Proposed Action would not result in significant cumulative impacts on public health and safety.

4.2.12 Utilities and Public Services

The Proposed Action in combination with other developments and projects in the area would increase the demands for utilities and public services. Each project would coordinate with the services providers to ensure adequate service is available. The projects would pay service fees and, in some cases, contribute to necessary improvements to ensure adequate services continue to be available to the area affected. The Proposed Action would contribute in the following ways to ensure that services would continue to be maintained at the proper level and that a significant cumulative impact would not occur:

Utilities

- *Water* – Include water facility improvements, such as additional water storage tanks and booster pumps.
- *Wastewater* – Include upgrades to the City of Imperial Beach's wastewater system within Silver Strand Boulevard, Calia Avenue, and Seacoast Drive to Pump Station 5 and within Imperial Beach Boulevard from 4th Street to East Lane.
- *Electrical* – Include electrical capacity upgrades to maintain the desired primary/back-up service. The use of renewable energy would be included.
- *Natural Gas* – Include a new natural gas service connection to the existing line at the south gate entrance.
- *Communication* – Include a new on-site Navy communication system to serve the individual buildings within the Coastal Campus.
- *Storm Water* – Include a new drainage design that would reduce runoff volume, capture runoff pollutants on-site, provide groundwater recharge, and offer a supplemental resource for irrigation and/or graywater use in facility buildings.

Public Services

- *Police* – Include appropriate safety and security lighting and security fencing where necessary.
- *Fire* – Construct all facilities to meet all applicable fire codes and regulations, and design to include required fire safety features such as sprinkler systems, fire flow requirements, and all other necessary fire safety features. To address the need for additional fire protection and emergency services for the proposed Coastal Campus, the Navy would include one or more of the following: (1) constructing a new fire station with a structural pumper, an ambulance, and associated staffing, (2) establishing a temporary fire station with firefighting apparatus, an ambulance, and staffing, (3) staging firefighting equipment including an ambulance at SSTC-South, (4) roving firefighting equipment (between NOLF IB and SSTC-South) including an ambulance, and (5) obtaining a deviation approval of the DoD Fire and Emergency Services Program (DoD Instruction 6055.06).
- *Solid Waste* – Comply with EO 13514 and EO 13423 specific to waste diversion, and also with the SSWP and Commander, Navy Region Southwest Instruction 11350.1B requirements regarding C&D debris. C&D debris would be diverted from the landfill waste stream to the extent feasible. Materials would either be recycled or reused through a variety of potential measures dependent on type and volume of material.

Overall, based on the above contributions maintaining that utilities and services would continue at the proper level, the Proposed Action would not result in a significant cumulative utilities and public services impact.

4.2.13 Coastal Uses and Resources

Cumulative impacts on coastal resources would consist of the effects of the NBC Coastal Campus in combination with other projects, actions, and processes that would result in potential impacts on aesthetics, water quality, and public access. The NBC Coastal Campus would not change public access and, therefore, no impacts would result. Construction effects on water quality would be temporary and would not be significant, provided there was successful compliance with the water quality conservation measures specified in Section 5.5 and the regulations for protecting water quality described in Section 3.5.1.2. Visually, the only proposed structure over 45 feet tall would be the paraloft, which would be up to 120 feet tall. The NBC Coastal Campus would be visually compatible with the existing one- and two-story buildings. The NBC Coastal Campus is adjacent to the City of Imperial Beach, an urban built-out area. Cumulative impacts to the visual coastal environment from the NBC Coastal Campus along with other past, present, or future development at Silver Strand State Beach and within the City of Imperial Beach would not be significant.

The Navy prepared a coastal consistency determination for the proposed NBC Coastal Campus and the CCC concurred with the determination on 12 November 2014. Overall, the Proposed Action, in conjunction with other past, present, and reasonably foreseeable future projects, would not result in significant cumulative impacts to coastal resources.

4.2.14 Aesthetics

Cumulative impacts on aesthetics would consist of the aggregate effects of the NBC Coastal Campus and other projects, actions, and processes that could degrade the viewshed within the ROI and along SR-75. The ROI for aesthetics consists of SSTC-South and adjacent public areas. The NBC Coastal Campus would change the existing site, but visibility would be limited to public areas of Imperial Beach, travelers along SR-75, viewers at Silver Strand State Beach, and residents of the Coronado Cays. No structures would be taller than 45 feet (or, for comparison, the existing height of the historic bunkers), with the exception of the proposed paraloft; this tower would be up to 120 feet tall. The NBC Coastal Campus would be visually compatible with the existing one- and two-story buildings.

Partial removal (90 percent) of the Wullenweber Antenna Array would improve the existing visual landscape of SSTC-South by providing increased opened views of the natural environment. Partial removal of the Wullenweber Antenna Array will be completed in early 2014 and will include removal of ground antennas, screens, fencing, poles, and guy wires. A small segment of the Array would be preserved in situ to provide a general understanding of the Array significance during the Cold War era. This removal would provide a more uncluttered view through the site. Cumulative impacts to the aesthetic environment associated with the NBC Coastal Campus, when added to other previous, planned, or foreseeable projects, would be those that degrade the natural views available to residents and sensitive receptors in the community surrounding SSTC-South. Those permanent structures that are envisioned for support of training activities would be located adjacent to existing facilities or would replace existing facilities. The NBC Coastal Campus is adjacent to the City of Imperial Beach, an urban built-out area. Cumulative impacts to the visual environment from development of the NBC Coastal Campus, along with other past, present, or future development at Silver Strand State Beach and within the City of Imperial Beach, would not be significant. From a scenic (SR-75) highway standpoint, Caltrans concurs with this conclusion (Caltrans 2014).

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CHAPTER 5.0
MITIGATION MEASURES AND IMPACT AVOIDANCE AND MINIMIZATION MEASURES

As part of the Navy's commitment to sustainable use of resources and environmental stewardship, the Navy incorporates measures that are protective of the environment into all of its activities. These include employment of BMPs and standard operating procedures, adoption of conservation recommendations, and employment of other measures that mitigate the impacts of Navy activities on the environment. Some of these measures are applicable for the Proposed Action and others are designed to apply to certain geographic areas during certain times of year and for specific types of Navy training. Measures covering habitats and species occurring in SSTC-South, NAB Coronado, and NASNI have been developed through various environmental analyses conducted by the Navy. These measures are promulgated through the use of Navy messages issued to all units and commands training on the three installations. The following discussion describes both mitigation measures and impact avoidance and minimization measures applicable to Navy activities at SSTC-South.

In addition to identification of current mitigation measures, the EIS also identifies, in compliance with 40 C.F.R. § 1502.14(h), further measures not currently being undertaken that would mitigate environmental impacts to a given resource. Each of the alternatives to the NBC Coastal Campus considered in this EIS includes measures intended to reduce the environmental effects of Navy activities.

5.1 LAND USE AND RECREATION

Mitigation Measures and Impact Avoidance and Minimization Measures

No mitigation measures or impact avoidance and minimization measures are proposed.

5.2 GEOLOGY AND SOILS

Mitigation Measures and Impact Avoidance and Minimization Measures

Mitigation Measures

No mitigation measures are proposed.

Impact Avoidance and Minimization Measures

Applicable and up-to-date best engineering and design standards and regulations would be employed in design and construction of any of the action alternatives as described below:

G-1 Compliance with the seismic design criteria identified in Uniform Building Code, the Naval Facilities Engineering Command (NAVFAC) P-355 Seismic Design Manual, and the design specifications criteria of the Structural Engineering Association of California.

G-2 Conduct geotechnical studies for all MILCON construction sites or on a more campus-wide basis.

G-3 Prepare a detailed demolition plan for Building 99.

G-4 Implement erosion control measures after construction.

G-5 Prepare a project-specific National Pollutant Discharge Elimination System (NPDES) General Construction Permit and a Storm Water Pollution Prevention Plan (SWPPP).

5.3 AIR QUALITY

Mitigation Measures and Impact Avoidance and Minimization Measures

Mitigation Measures

No mitigation measures are proposed.

Impact Avoidance and Minimization Measures

To control fugitive dust and exhaust emissions and to minimize dust during demolition, grading and earthwork operations, and construction:

AQ-1 Implement best available control measures (BACM).

AQ-2 Water all active construction areas at least twice daily.

AQ-3 Cover all trucks hauling soil, sand, and other loose materials, or maintain required freeboard.

AQ-4 Pave, apply water twice daily, or apply (nontoxic) soil stabilizers on all unpaved access roads, parking areas, and staging areas at construction sites.

AQ-5 Limit idling of heavy equipment to less than 5 minutes and verify through unscheduled inspections.

AQ-6 Maintain and tune engines per manufacturer's specifications to perform at CARB and/or USEPA certification levels, prevent tampering, and conduct unscheduled inspections to ensure these measures are followed.

AQ-7 If practical, lease new, clean equipment meeting the most stringent of applicable Federal or state standards. In general, commit to the best available emissions control technology. Tier 4 engines should be used for project construction equipment to the maximum extent feasible.

AQ-8 Lacking availability of non-road construction equipment that meets Tier 4 engine standards, the responsible agency should commit to using CARB and USEPA-verified particulate traps, oxidation catalysts, and other appropriate controls where suitable to reduce emissions of diesel PM and other pollutants at the construction site.

AQ-9 Consider alternative fuels such as natural gas and electricity (plug-in or battery).

AQ-10 Sweep streets daily (with water sweepers) if visible soil material is carried onto adjacent paved streets.

AQ-11 Prepare a detailed demolition plan to identify measures to break up, reuse to the maximum extent practical, and haul away the debris from the demolition of Building 99.

AQ-12 Incorporate abatement measures if asbestos-containing building materials or lead-based paint is determined to be present during demolition.

AQ-13 Coordinate with NBC Environmental Management to submit to APCD necessary documentation (i.e., Notice of Intent) for the demolition of load-bearing structures or work involving removal of regulated asbestos-containing materials.

AQ-14 Permits shall be submitted for, and prepared for, any use or installation of internal combustion engines (e.g., generators, compressors, etc.) 50 horsepower and above. All portable construction equipment shall be registered under the statewide Portable Registration Program. All off-road construction equipment with diesel engines 25 horsepower and above shall be registered with CARB.

AQ-15 Ensure all vehicles and operating equipment have drip pans placed under that equipment to contain and collect all potential leakage.

AQ-16 Galvanized metal that will be exposed to precipitation shall be coated (e.g., paint, powder coat, vinyl coat) to prevent sources of zinc metals into storm water runoff.

5.4 HAZARDOUS MATERIALS AND WASTE

Mitigation Measures and Impact Avoidance and Minimization Measures

Mitigation Measures

No mitigation measures are proposed.

Impact Avoidance and Minimization Measures

Potential impacts identified under Alternatives 1, 2, and 3 include the disturbance of residual petroleum contamination in soil and/or groundwater from former USTs and asbestos contamination in soil from IR Site 11. Proposed measures include precautionary measures taken during planning and construction of future permanent facilities to minimize risks to human health and the environment. Precautionary measures are as follows:

HM-1 Locating facility construction outside of former release areas.

HM-2 Comply with Navy's general instructions (e.g., OPNAVINST 5090.1D and 5100.23) to ensure that hazardous materials and hazardous waste are stored and handled appropriately.

HM-3 Comply with the Navy's current measures including Hazardous Waste Management Plan, NBC Hazardous Substance Release Integrated Contingency Plan (U.S. Navy 2008a), and Regional Explosive Hazardous Waste Management Plan (U.S. Navy 2011b).

HM-4 Field screen (e.g., air monitoring) during construction to identify potential residual petroleum contamination.

HM-5 Manage and dispose of disturbed soil or debris in the event that residual contamination is encountered in accordance with Navy guidance, and applicable state and federal regulations.

HM-6 Prepare abatement plans for asbestos-containing materials and lead-containing materials prior to the demolition process.

HM-7 Prior to the start of any demolition activities, contractors shall perform hazardous building materials surveys in order to identify and implement appropriate control measures during demolition to protect human health (both worker and public) and the environment. Appropriate control measures may include preparation and implementation of demolition plans, lead compliance plans, and/or asbestos abatement plans, as necessary, depending upon the results of the hazardous materials building surveys.

HM-8 A plan or guidance for the contractor should be in place in the event that unforeseen materials are discovered during demolition and construction. This would include communication and follow-on action protocol.

With implementation of the measures discussed above, no significant impacts would occur as a result of the Proposed Action alternatives for hazardous materials and waste. Current measures, including implementation of practices outlined in Navy plans (listed in Section 3.4.1.2), would continue to be implemented. In addition, where possible, the Proposed Action would avoid disturbing areas of known historical UST releases and/or IR sites.

5.5 WATER QUALITY AND HYDROLOGY

Mitigation Measures and Impact Avoidance and Minimization Measures

Mitigation Measures

No mitigation measures are proposed.

Impact Avoidance and Minimization Measures

Site design would incorporate the following:

W-1 Facilities would be situated as far as practical from natural drainages to avoid or minimize impacts to water quality as a result of Proposed Action construction and operation.

W-2 Projects would implement LID features for the long-term postconstruction (operational) phase. Water-quality benefits would be provided through low-impact design, source controls,

and treatment controls. Depending on site conditions, purpose, and surrounding landscape, features would include the following:

W-2.1 Integrating detention basins, biofiltration cells, vegetated swales, infiltration strips, or similar earth-based vegetated system for accepting and conveying runoff associated with new paved surfaces (e.g., walkways, roadways, hard deck areas, etc.) and other permanent impervious features. Designs would consider increasing the size of local flood control sites serving the project areas or including detention/retention systems in designs for parking areas or other sites.

W-2.2 Optimizing the use of suitable pervious materials for hardscaped surfaces (e.g., porous pavements, gravel walkways, grass pavers).

W-2.3 Maximizing soft-bottom drainage that is amenable to vegetative planting and natural treatment of runoff.

W-2.4 Integrating natural rock or similar material for protection against scour and sediment transport at discharge points and on soft-bottom drainages.

W-2.5 Integrating meandering pathways within soft-bottom watercourses for increased residence time and improved vegetated runoff treatment.

W-2.6 Incorporating low-flow pathways for new hardscaped impervious drainages (e.g., concrete channels) to concentrate dry-weather flows along the thalweg (i.e., lowest point of flow), minimize vegetative growth, and reduce long-term maintenance.

W-2.7 Enhancing storm water infiltration in areas of poor soil permeability by incorporating buried percolation conveyance components (e.g., buried roof downspouts, subdrains for vegetated areas).

W-2.8 Selecting and designing access routes to minimize impacts to receiving waters, in particular the discharge of identified pollutants to an already impaired water body.

W-2.9 Designing projects located within the 100-year flood zone to minimize the risk of property loss, injury, or death from flooding events.

W-2.10 Maximizing the use of underground or aboveground cisterns for the capture and reuse of rain water.

Construction would implement the following:

W-3 Before initiation of projects, compliance with the planning requirements established by the Construction General Permit Order 2012-0006-DWQ, NPDES CAS000002 (amending Order 2009-0009-DWQ as amended by 2010-0014-DWQ), would be established for traditional construction sites and LUPs. LUP activities include those activities necessary for the installation of underground and overhead linear facilities (e.g., conduits; substructures; pipelines; towers; poles; cables; wires; connectors; and switching, regulating, and transforming equipment). These projects, as well as any other construction project disturbing more than 1 acre, would be covered by the Construction General Permit. This new permit

supersedes and consolidates the requirements of the previous Construction General Permit (Order 99-08-DWQ) and Linear Permit (Order 2003-0007-DWQ), and has been effective since 1 July 2010. Under this Construction General Permit, the following are required:

W-3.1 The contractor would provide a Qualified SWPPP Developer (QSD) to complete a risk determination and prepare a draft SWPPP in accordance with the risk-level requirements in the Construction General Permit. The SWPPP would be prepared by a QSD certified by the California Stormwater Quality Association.

W-3.2 The contractor would obtain coverage under the Construction General Permit by uploading Permit Registration Documents (i.e., NOI, SWPPP, and other compliance-related documents required of Order 2012-0006-DWQ) to the California Stormwater Multi-Application and Report Tracking System (SMARTS) website. A Waste Discharge Identification number would be received from SMARTS before initiation of any soil disturbance.

W-3.3 Project construction would comply with all provisions described in the Construction General Permit, and would strictly follow the SWPPP under the direction of a Qualified SWPPP Practitioner (QSP) provided by the contractor. The QSP would maintain and update the SWPPP as necessary to track modifications, BMP locations and implementation, training, and other requirements. The certification statement would be included in the on-site SWPPP. The QSP would be a separate individual from the QSD.

W-3.4 The contractor would be responsible for conducting all required inspections, sampling, recordkeeping, and corrective actions.

W-3.5 After completion of construction activities, the contractor would prepare the Notice of Termination and supporting documentation to submit to the SWRCB via the SMARTS website. To terminate coverage, the project would have to meet permanent stabilization requirements specified by the Construction General Permit, and an acceptance of the Notice of Termination would have to be received from the SMARTS system.

W-3.6 The contractor would submit an Annual Report to the SWRCB through SMARTS. The Annual Report would have to be accepted by the SWRCB before the contractor could be released from the contract.

W-4 The SWPPP would specify measures to avoid or minimize construction-related surface water pollution to include proper runoff controls, pollutant source controls, and runoff treatment controls (when other nontreatment controls are insufficient for reducing runoff pollutant loads). Project construction would comply with all provisions described in the Construction General Permit and would strictly follow the SWPPP. The QSD would provide SWPPP updates for the QSP to implement so that conditions at the project site are in compliance as site conditions change, BMP locations and types are modified as necessary, and evolving training needs are met.

W-5 The construction SWPPPs for all of the projects would include the water quality protection and monitoring measures required in the Construction General NPDES Permit (Order 2012-0006-DWQ), but would also address the following project-specific practices:

W-5.1 Clearing and grading of native vegetation would be limited to the minimum amount needed to construct, allow access to, and provide fire protection for if earthwork is conducted during the wet season.

W-5.2 Advanced BMP treatment controls (e.g., active treatment systems employing sedimentation traps/ponds with flocculant addition, redundant BMPs, or treatment trains) would be considered when construction sites are less than 500 feet from sensitive receiving waters (i.e., the Pacific Ocean and San Diego Bay).

W-5.3 Materials and waste management programs would be implemented during construction within the project limits and on equipment/material laydown areas. Programs would be for solid, sanitary, septic, hazardous, contaminated soil, concrete, and construction waste management; spill prevention; appropriate material delivery and storage; employee training; dust control; and vehicle and equipment cleaning, maintenance, and fueling. Each of these programs would address proper secondary containment requirements, spill prevention and protection, structural material storage needs, proper concrete washout design and containment, perimeter and surface protection for laydown and maintenance areas, and relaying all such requirements to construction staff. Storage, use, and disposal of hazardous materials would be conducted in accordance with local, state, and Federal guidelines pertaining to handling, storage, transport, disposal, and use of such materials.

W-5.4 The SWPPP and storm water BMPs would consider design, placement, and discharge locations to avoid impacts to listed species and their habitats (i.e., discharge, dewatering).

W-6 Storm water BMPs would include the following practices, which would be detailed in the SWPPP:

W-6.1 Storm water and erosion controls would be installed prior to soil disturbance on the construction site. Where determined necessary, silt fencing, straw wattles, temporary earthen berms, or similar runoff barriers would be placed along the perimeter of the project site using methodologies and orientations appropriate to control erosion. The fence would be buried at the bottom and staked. Points of discharge from these BMPs or other points of concentrated runoff would employ scour/erosion control. Silt fencing, straw wattles, earthen berming, or a similar barrier would be placed around the perimeter of the project site and be properly installed and maintained.

W-6.2 Stockpiles of soil, concrete, and other materials would be covered with a tarp or blanket and/or surrounded with straw wattles or gravel bags. Slopes would be protected with straw wattles or blankets. All straw wattles would be certified as weed-free.

W-6.3 Whenever possible, grading would be phased to limit soil exposure and minimize potential sediment transport. Finished areas would be revegetated and/or hydroseeded as soon as possible with native species known to exist in the project area.

W-6.4 Storm drain inlets would be protected using gravel bags or certified weed-free straw wattles, filter fabrics, absorbent socks, rubber covers, or other materials appropriate for the location. Construction entrances and laydown areas would be stabilized. Materials that could impact storm water runoff would be stored in lockers, on pallets, inside rubber berms, indoors, or under a cover. Material storage areas would be located away from existing storm drains and surface waters.

W-6.5 Sedimentation basins would be constructed where appropriate and would include standpipe design discharge outlets that allow collected water to drain off at a controlled rate (i.e., drain within 72 hours). Supplemental BMPs for scour protection and erosion control would also be integrated at discharge outlet points, overflow spillways, or similar areas prone to concentrated flow.

W-6.6 Check dams would be used to reduce runoff velocities where necessary.

W-6.7 BMP structural facilities would be regularly inspected and repaired. Damaged or worn silt fences, wattles, gravel bags, and other BMPs would be replaced when they are found to be inadequate or ineffective.

W-6.8 Fueling and maintenance of equipment would take place within existing paved areas or the identified laydown area, but not closer than 100 feet to drainages. Cleaning of vehicles and equipment would take place off-site to the greatest extent possible. If it is necessary to clean vehicles on-site, vehicles may be rinsed with water, and designated bermed areas would be used to prevent rinse water contact with storm water and other water bodies. Soaps or detergents would not be used. Collected rinsate would be used on-site for construction water needs or transferred to a temporary holding tank or a vactor truck (a vacuum truck with a tank on board for collecting wastewater and sediment) for discharge off-site (e.g., batch discharge to a sanitary sewer with proper authorization and clearance).

W-6.9 Construction equipment staging and access, and disposal or temporary placement of excess fill within drainages or other wetland areas, would be prohibited.

W-6.10 Solar-degradable plastic will not be used on the construction project site.

W-7 If the proposed activity would involve groundwater extraction (dewatering), dewatering permits would be obtained for areas where the groundwater level is high and groundwater is likely to be encountered during construction. If encountered, dewatering waste would be disposed of in accordance with RWQCB Order No. R9-2008-0002, General Waste Discharge Requirements for Discharges from Groundwater Extraction and Similar Discharges to Surface Waters within the San Diego Region except for San Diego Bay, and RWQCB

Resolution No. R9-2007-0104, Conditional Waivers of Waste Discharge Requirements for Specific Types of Discharge within the San Diego Region, depending on the method of disposal.

The following postconstruction measures would be implemented:

W-8 Once construction of each project is completed, an operations and maintenance program would be implemented in accordance with the NBC NPDES Permit Order No. R9-2009-0081, as modified by Order No. R9-2010-0057 (CA0109185), which would be implemented for the life of the facility/project to ensure the continued effectiveness of postconstruction BMPs. Maintenance activities would vary from area to area depending on the BMPs in place, but would include the following:

W-8.1 Cleaning and removing debris from BMP inlets, outlets, or catchments after major storm events.

W-8.2 Mowing and maintaining vegetated BMPs (e.g., maintaining swales and/or detention/retention systems to original cross sections and infiltration rates).

W-8.3 Removing accumulated trash, debris, and/or sediment from BMPs before each wet season (i.e., September).

W-8.4 Seeding or sodding to restore or maintain ground cover.

W-8.5 Repairing erosion areas and stabilizing repairs with additional erosion-control measures.

W-8.6 Removing and replacing all dead and diseased vegetation as necessary to maintain vegetation coverage and minimize erosion. Replacement vegetation would not include any invasive species.

W-8.7 Managing fertilizer use (particularly in the wet season) and minimizing or avoiding herbicide or pesticide applications during all times of the year.

W-8.8 Maintaining BMP vegetation health (i.e., periodic irrigation or batch watering) without causing runoff from overirrigation.

W-8.9 Implementing structural and nonstructural programs (i.e., routine procedures or practices) to prohibit the storage of uncovered hazardous substances in outdoor areas and implementing good housekeeping procedures on a routine basis.

W-8.10 Inspecting and replacing inlet protection/filters as necessary.

5.6 NOISE

Mitigation Measures and Impact Avoidance and Minimization Measures

Mitigation Measures

No mitigation measures are proposed.

Impact Avoidance and Minimization Measures

To reduce noise impacts associated with project-related demolition activities:

N-1 A detailed demolition and blasting plan would be prepared including public notification and complaint protocol.

5.7 BIOLOGICAL RESOURCES

Mitigation Measures and Impact Avoidance and Minimization Measures

Mitigation Measures

No mitigation measures are proposed.

Impact Avoidance and Minimization Measures

All measures and provisions of the USFWS-issued Informal Consultation Concurrence Letter (FWS-SDG-14B0200-14I0295) would be implemented. The Navy Host or Tenant Command would be responsible for the mitigation measures. The following impact avoidance and minimization measures were developed to reduce impacts to biological resources.

5.7.1 General

B-1 If, during the design phase of the Proposed Action alternatives, ground-disturbing activity within the footprint, such as geological testing, is conducted, NBC NRO will be notified at least 15 days before the activity is scheduled to occur. NBC NRO approval will be required for any such activity, and the location of the activity will be reviewed to determine if it should be monitored by a biological monitor who is approved by NBC NRO because it is near a sensitive biological resource. Monitoring of such sites should occur to ensure minimal damage to sensitive resources and adequate restoration of disturbed areas. All temporary impacts associated with the geotechnical boring surveys will remain within the footprint of the project area, as described during the consultation. The biological monitors will work with the boring crews to avoid and minimize risks to listed resources to the maximum extent practical, including approving driving routes to reach the boring sites. If it is determined that the geotechnical borings will potentially result in permanent impacts to listed species, NBC NRO will coordinate accordingly with USFWS. If ground-disturbing activity would take place outside of project limits, an analysis of potential impacts to listed species will be required and additional consultation with USFWS will occur for those areas outside those described in this EIS.

B-2 All construction will take place within the Proposed Action footprint defined in the EIS except for traffic access and utility line improvements that have been identified (and are located within the temporary impact area) and agreed to in a process to minimize their impacts to sensitive biological resources. If unforeseen conditions arise, the Navy will be notified to take appropriate action. Contractor(s) will be informed that construction activity must be confined within established limits. Contractors will be responsible for nondiscretionary compensation

for direct impacts to federally listed species and their habitats that occur as a direct result of construction activities outside of the project construction limits. Compensation requirements will be determined by the Navy in coordination with USFWS.

B-3 Contractor(s) will be provided with digital files showing the project limits that were used for the environmental analyses in the Final NBC Coastal Campus BA. Digital files and hardcopy maps will include the locations of federally listed species and sensitive habitats (including vernal pools). Contractor(s) will be required to coordinate with NBC NRO during design and construction to ensure that projects stay within the limits identified.

B-4 Impact avoidance and minimization planning measures adopted as part of the Proposed Action include worker environmental protection briefings, signs, markers, protective fencing, exclusion fencing, biological monitoring, erosion and sedimentation prevention, noise baffling, and restoration of native plant community and cover type areas temporarily affected.

B-5 A qualified project biologist contracted by the Navy and approved by NBC NRO will oversee the avoidance and minimization measures, including any required surveys and monitoring activities. Familiarity with the individual federally listed species and associated habitats will be required for all workers. Different project biologists may be designated for specific measures based on the qualifications necessary to satisfy the specific measure. If multiple project biologists are required, their activities will be coordinated through one primary project biologist. The project biologist(s) will have the experience and training necessary to conduct tasks described in the NBC Coastal Campus BA. Minimum standards for experience and training will be determined in advance by the Navy and will be dependent on the specific task being addressed by the biologist. A statement of qualifications, including a resume of experience and training for each designated project biologist, will be submitted for review and approval to NBC NRO. Generally, when a qualified biologist is needed, the biologist will (1) be familiar with the federally listed species and associated habitats that require the survey or monitoring activity; (2) have a bachelor's degree with an emphasis in ecology, wildlife science, or related science; and (3) have previous experience with applying the terms and conditions of a BO. In addition, where applicable, the qualified biologist will possess a Section 10(a)(1)(A) permit specific to the species and type of surveying or monitoring required. The biologist's resume, qualifications statement, and permit number, if required, will be submitted to NBC NRO. The correct number of appropriately trained biological monitoring staff will be present during all construction (preconstruction, construction, and postconstruction) activities (i.e., vegetation clearing, grading, trenching, drilling) to ensure that ESA and CWA impact avoidance and minimization measures are carried out correctly. For the avoidance and minimization measures noted below, "qualified biologist" is hereafter referred to as "project biologist."

B-6 The project biologist will monitor construction activities to ensure compliance with required impact avoidance and minimization measures, and will keep the project manager and NBC NRO informed about construction activities that may threaten sensitive biological resources. The project biologist will record daily construction activities and provide an electronic version of all weekly biological monitoring reports to NBC NRO and Navy Construction Manager. The project biologist will have the ability to halt activities to avoid impacts to listed species.

B-7 All construction and maintenance personnel will receive environmental training from the project biologist of NBC NRO before commencing work. The construction crews briefing will be on the resources and impact avoidance and minimization measures involved in the project and the requirements and boundaries of the project. Environmental training will include a description of sensitive species and habitats potentially occurring on or near the project site or greater project area, details on each species' habitat requirements, the protective measures to be implemented for each species, the role of the project biologist and the responsibilities of those on-site to protect biological resources, the importance of complying with impact avoidance and minimization measures, the method for reporting problems, and the steps to take for problem resolution.

B-8 The project will have a designated footprint and the project biologist will ensure that all construction personnel remain within the limits of the project footprint for the duration of project activities. The Proposed Action footprint is considered the project footprint limits and no construction will be permitted outside of this footprint.

B-9 Where adjacent to native plant communities and determined necessary by NBC NRO, construction fencing will be installed around the outer perimeter of the project limits to reduce human disturbance of these adjacent natural habitats.

B-10 Standard BMPs to control dust, such as watering the site during construction, covering truckloads and stockpiles, and applying soil stabilizers on unpaved access roads will be implemented during construction.

B-11 The project has a goal of zero storm water discharge (capture 100 percent of the discharge). However, if this goal cannot be achieved, runoff during construction and postconstruction operations will be minimized and treated through measures that include, but are not limited to, preparing a SWPPP; applying soil stabilizers or other measures for erosion control on unpaved access roads; and implementing LID features.

B-12 A visual obstruction is necessary to obscure the proposed entry control point on the north end of the site from adjacent occupied critical habitat for the Western Snowy Plover. That portion of the site will require grading to access SR-75 due to existing topography, slope stability, and the need for suitable vehicle access associated with the entry control point. Preconstruction engineering may indicate that the grading and site preparation itself may create a visual barrier that adequately obscures the entry control point from the adjacent critical habitat for the Western Snowy Plover. However, if engineering design for the entry control point does not create conditions that obscure the site from the critical habitat for the Western Snowy Plover, project design will include a permanent boundary fence and or an earthen berm or visual screen to fulfill that requirement. During design of the entry control point and before construction, NBC NRO will be consulted to ensure impacts from the entry control point are minimized, the visual screen will be adequate, and that no impacts to federally listed species or habitat occur as a result of construction of the fence and/or visual screen. Due to the adjacency of the earthen berm or visual screen to Silver Strand State Beach, consultation and approval from State Parks will be required if any work is to occur on State property.

B-13 Construction work will generally take place during the daytime. In the event that nighttime construction work is required, prior approval will be required by NBC NRO. Any artificial lighting required will be shielded away from native vegetation communities, beaches, and SR-75.

B-14 Permanent outdoor lighting installed at proposed facilities will be shielded to maximally reduce light pollution into adjacent residential communities and natural plant communities, particularly areas that are occupied by a listed species. Other methods of reducing light pollution (e.g., dusk-to-dawn sensor activation, low-lumen or limited-spectrum lighting) will be applied wherever possible. Light poles and light placement will be constructed at the lowest height possible (considering security constraints) to reduce impacts to the surrounding natural resources by reducing raptor perching sites and to reduce light pollution.

B-15 Construction workers and navy and civilian personnel who use the facilities in the future will not be permitted to bring any domesticated pets to any of the construction sites or facilities (NBC INST 5100.2G) to ensure that domestic pets do not affect wildlife through harassment or predation in adjacent natural habitats. This does not apply to military working dogs as training impacts on wildlife from military working dogs have already been analyzed in the *Silver Strand Training Complex Environmental Impact Statement* (U.S. Navy 2011).

B-16 Natural areas temporarily impacted by construction of the water pipeline will be restored to native vegetation following construction. A restoration plan will be submitted and approved by NBC NRO before initiating any restoration work. Restoration will be initiated within 12 months of the completion of the water pipeline construction.

B-17 If it is determined that a listed species is harmed, the action and condition of the individual plants or animals affected will be reported immediately to NBC NRO and any necessary follow-up steps will be implemented (such as taking the injured animal to an approved wildlife rehabilitation facility, and NBC NRO will notify USFWS).

B-18 To comply with EO 13112, National Invasive Species Act, Federal Noxious Weed Act, and Noxious Plant Control Act, construction contractors will ensure that all equipment and/or vehicles will be clean and free of mud, dirt, and weeds before entering SSTC-South. When washing wheeled vehicles, the front wheels will be turned from lock-to-lock to allow for exposure of surfaces that may hold weed seeds. Invasive plants with an overall moderate or high ranking in the most current California Invasive Plant Council Inventory will be considered as “weeds” for purposes of this measure. The project biologist will identify weed species that become established at the various project sites. The designated project biologist for this measure will be knowledgeable of and able to identify weed species listed in the California Invasive Plant Council Inventory. Additional qualifications may be specified by NBC NRO for the project biologist handling weed management. The project biologist will report all new weed species invasions (whether they are new to SSTC-South or new to the specific project site) to NBC NRO.

B-19 All proposed planting palettes, landscape designs, and installation of trees will be submitted for review and approval by NBC NRO and Navy Landscape Architect and will use native, drought-tolerant plants appropriate for SSTC-South, NAB Coronado, and NASNI. Invasive

plant species will not be included in landscape plantings. A list of suitable landscape plants (including trees) is included in the Landscaping and Installation Appearance Plan Approved Plant List in Appendix H of the NBC INRMP 2013 (U.S. Navy 2013c). To reduce the effects of nesting avian predators in trees within the Proposed Action footprint, a 1:1 ratio of trees shall be removed to trees planted so no net increase occurs in the number of trees from current conditions. Trees shall not be placed along the west side of the Proposed Action footprint. Trees shall be spaced far enough apart so that, when full grown, their branches will not be touching. Trees shall be trimmed or pruned to open up the canopy of the trees to prevent nesting of American Crows (*Corvus brachyrhynchos*) and/or Common Ravens (*Corvus corax*).

B-20 Impact avoidance and minimization measures adopted as part of individual projects will include all those described in this section and those in the Informal Consultation Concurrence Letter issued by USFWS for the Proposed Action on 12 September 2014. Where in conflict, conservation measures listed in the Informal Consultation Concurrence Letter will supersede those listed elsewhere.

B-21 Written approval by the NBC Wildlife Biologist, NBC Botanist, and NAVFAC Cultural Resources Program is required prior to finalization and implementation. Engagement and coordination with the aforementioned subject matter experts in the Request for Proposal (RFP) and design process must occur from the beginning to ensure timely coordination so as to afford appropriate opportunities for project review and modification to comply with Federal laws and regulations, to protect endangered/threatened species and habitats in close proximity to the project site, and to comply with the Secretary of the Interior Standards for Rehabilitation. Subject matter experts must be contacted during RFP development and prior to the kickoff-meeting of the project design.

B-22 All trash generated from construction and operation of the Proposed Action will be contained within covered, secured trash bins that are inaccessible to wildlife and emptied on a regular basis and prevented from overflowing. All exposed food waste or trash generated from food products (e.g., wrappers, food containers) will be removed from the site on a daily basis to prevent attraction of predators (e.g., American Crows or Common Ravens and mammalian scavengers such as rats [*Rattus* sp.], raccoons [*Procyon lotor*], and skunks [*Mephitis mephitis*]).

5.7.2 Species-Specific Avoidance, Minimization, and Compensation Measures

5.7.2.1 Federally Listed Wildlife and Critical Habitat

The NBC INRMP details specific measures and proposed management strategies to reduce impacts to federally listed wildlife species and their habitats. Section 4.4.3 and subsequent sections of the NBC INRMP address San Diego fairy shrimp (Section 4.4.3.1), Light-footed Ridgway's Rail (Section 4.4.3.4), and Western Snowy Plover (Section 4.4.3.5). Since California Least Tern does not breed on SSTC-South, no specific avoidance and minimization measures are listed. However, those measures outlined for Western Snowy Plover will apply to California Least Tern if that species begins to breed on SSTC-South. Additional impact avoidance and minimization measures are outlined in Section 5.2.2 of the NBC INRMP; these will be implemented for the Proposed Action.

The following sections detail species-specific impact avoidance and minimization measures for federally listed wildlife species that may be directly or indirectly impacted by the Proposed Action alternatives. Since California Least Tern does not breed on SSTC-South, no specific impact avoidance and minimization measures are listed. There are no species-specific avoidance and minimization measures for salt marsh bird's beak, or Light-footed Ridgway's Rail as the general measures listed above are sufficient to avoid and minimize potential impacts. No species-specific avoidance and minimization measures are listed for California Least Tern, Coastal California Gnatcatcher, and Least Bell's Vireo as there are no anticipated impacts to these species.

5.7.2.2 San Diego Fairy Shrimp

B-23 Avoidance and minimization of indirect impacts to San Diego fairy shrimp-occupied habitat adjacent to the Proposed Action will occur through BMPs for dust and erosion control. NBC NRO will review specific BMPs (e.g., sediment fencing intended to protect vernal pools) before measures are implemented to avoid potential adverse impacts (e.g., altered hydrologic regime) of the BMP and determine whether special post-BMP measures are warranted (e.g., revegetation of areas temporarily impacted). No trenching will occur within vernal pool watershed areas in association with BMPs. Additionally, storm water coming from the Proposed Action footprint, both during and after construction, will be directed away from occupied basins and their watersheds to prevent contaminants and sediment from flowing off the Proposed Action footprint and into adjacent habitat. All storm water coming from the Proposed Action will be captured, directed to storm drains, and prevented from entering vernal pools or their watersheds.

B-24 To avoid impacts to San Diego fairy shrimp-occupied habitat, known occurrences within 500 feet of project boundaries will be identified on project demolition and construction plans and, if determined necessary by NBC NRO or the project biologist, occupied habitat will be clearly indicated in the field with markers or exclusion fencing. Known populations and restricted areas will be monitored by the project biologist (familiar with the habitat of species) during construction phases, as determined necessary by NBC NRO. If deemed necessary, a 50-foot nondisturbance buffer will be established around each vernal pool and exclusion fencing, markers, or BMPs will be established around the nondisturbance buffers to prevent construction-related runoff and sedimentation from entering the pools.

B-25 To avoid impacts to vernal pools resulting from unauthorized trespass during construction, operation, and maintenance activities, signs and/or gates will be installed at all locations that could provide potential access to the vernal pool watershed (i.e., dirt access roads or foot paths) prior to the initiation of project construction. The type of placement of signs and/or gates will be determined by NBC NRO. Signs and/or gates will be regularly maintained and remain in place for the life of the project.

5.7.2.3 Western Snowy Plover

B-26 The Navy will distribute educational materials and/or install interpretive panels to inform military and civilian personnel of the sensitive species on SSTC-South and measures in place

to avoid impacts (e.g., no recreational use of the beach meaning activities not associated with approved training, is permitted).

B-27 Construction during the breeding season within 300 feet of Western Snowy Plover nesting locations will be avoided to the maximum extent feasible. The nesting season occurs from approximately 1 March through 15 September, but varies depending on species and environmental conditions for each year. The exact timing of construction to avoid the nesting season (when construction will occur within 300 feet of occupied habitat) will be agreed upon by NBC NRO and USFWS. If construction must occur during the nesting season within 300 feet of occupied Western Snowy Plover habitat, NBC NRO, in coordination with USFWS, will determine the locations to construct noise and visual attenuation barriers of plywood 12 feet tall to mitigate any potential temporary noise and visual effects to nearby Western Snowy Plover breeding locations. NBC NRO may determine the need for additional noise attenuation and light reduction measures for any building or bunker demolition that may take place during the breeding season.

B-28 In the event that nighttime construction work is required, prior approval will be required by NBC NRO. Any artificial lighting required will be shielded away from native vegetation communities, beaches, and SR-75. If nighttime construction must occur during the nesting season on the western and northern sections of the site within 500 feet of Western Snowy Plover nesting areas, noise attenuation barriers will also be required as determined by NBC NRO.

B-29 NBC NRO will review project design features (during the design phase) to ensure that building designs minimize impacts to Western Snowy Plovers. Design features that prevent raptors and avian predators from perching near sensitive avian species nesting habitat may include the use of anti-perching devices on light poles, rooftops, and other perching locations. Anti-nesting devices will be installed on appropriate structures to prevent prey species from nesting on buildings, which may attract predatory avian species. Additional building design features may include minimizing building heights to reduce bird collision, altering roof pitch designs to minimize perching, and limiting the number of new light poles or new perching structures. Light poles, light placement, and antennas will be constructed at the lowest height possible (considering security constraints) to reduce effects to Western Snowy Plover by reducing raptor perching sites and to reduce light pollution. Should any antennas be proposed, coordination would be required with NBC NRO and possibly USFWS.

B-30 During construction, equipment (such as cranes) that could provide temporary supplemental perches for birds of prey and predatory birds will be staged and stored when not in use at least 500 feet away (inside the Proposed Action footprint) from habitat occupied by Western Snowy Plover. Equipment staging and laydown areas will be approved in advance by NBC NRO to ensure the areas are far enough away from occupied habitat. The project biologist will monitor construction activities to determine if equipment is providing supplemental perches, and make recommendations to reduce perching opportunities for avian predators.

B-31 To avoid impacts to Western Snowy Plovers resulting from operation of the project (i.e., casual outdoor recreation such as walking or running within occupied plover habitat), the

existing gate along the western perimeter fence allowing beach access will remain locked at all times during the plover breeding season except when authorized access is granted.

5.7.2.4 Critical Habitat for the Western Snowy Plover

In addition to the measures listed above for Western Snowy Plover (B-26 to B-31), the following measures will be implemented to reduce impacts to critical habitat for Western Snowy Plover.

B-32 A visual obstruction is necessary to obscure the proposed entry control point on the north end of the site from adjacent occupied critical habitat for the Western Snowy Plover. That portion of the site will require grading to access SR-75 due to existing topography, slope stability, and the need for suitable vehicle access associated with the entry control point. Preconstruction engineering may indicate that the grading and site preparation itself may create a topographic visual barrier that adequately obscures the entry control point from the adjacent critical habitat for the Western Snowy Plover. However, if engineering design for the entry control point does not create conditions that obscure the site from the critical habitat for the Western Snowy Plover, a permanent stone wall, concrete wall, or earthen berm or screening fence will be constructed within the Proposed Action footprint between the proposed new entry control point and critical habitat on Silver Strand State Beach. This will provide a visual barrier to nesting Western Snowy Plovers. The height and length of the wall or fence will be determined by NBC NRO and USFWS. The wall or fence will have anti-perching devices installed on the top to prevent birds of prey from using the wall or fence for perching.

B-33 During the design phase, NBC NRO will be consulted regarding the exact location of the entry control point. If feasible, the entry control point will be located as far south along SR-75 as possible to reduce the potential for disturbance to Western Snowy Plovers within critical habitat from humans and vehicles entering and leaving SSTC-South. To the greatest extent feasible, construction of the proposed entry control point and adjacent security fence will take place outside of the Western Snowy Plover nesting season (which generally occurs from 1 March through 15 September, but this may vary slightly from year to year).

B-34 To offset permanent impacts to Western Snowy Plover critical habitat, the Navy will restore/enhance 0.15 acre of plover habitat through removal of ice plant along the western SSTC-South boundary (outside of the fence line) within 12 months of the completion of construction activities in plover critical habitat. All ice plant removal will be accomplished during the non-nesting season and will be completed using a work crew with hand tools or machinery (i.e., a bobcat or loader with grappler attachment).

5.7.3 Nonfederally Listed Rare Wildlife

5.7.3.1 Bats

B-35 Before any building, bunker, or enclosed structure demolition, a qualified biologist will check the structure for sign of any roosting bats. If any bats are detected, they will be passively excluded (prevented from returning once they have exited the building for evening foraging) before demolition.

5.7.3.2 Migratory Birds

The following avoidance and minimization measures are specific to migratory birds:

B-36 New buildings and structures will incorporate a bird-friendly design to reduce and prevent birds from colliding with buildings. Bird-friendly design features include transparent passageways, corners, atria, or courtyards so that birds do not get trapped; appropriately shielded outside lighting that is directed away from native habitats to minimize attraction to light-migrating songbirds; interior lighting that is turned off at night or designed to minimize light escaping through windows; and landscaping that is designed to keep birds away from the building's façade. Use of nonreflective or opaque glass; external shades (or other devices to reduce glare, transparency, or reflectiveness) on windows; ultraviolet patterned glass; angled glass; and/or louvers can aid in reducing bird collisions. Additionally, night-time lighting will include bird-friendly design features such as shielded lights (to reduce ambient light into nearby native habitats), use of motion detectors and other automatic controls, and lighting design that uses shields to prevent light from shining upward into the sky (Sheppard 2011).

NBC NRO will be consulted to ensure the minimization measures are incorporated to prevent window strikes.

A bird-friendly design can also contribute to the goal of meeting LEED certification standards established by the U.S. Green Building Council through the Pilot Credit 55: Bird Collision Deterrence.

B-37 Project design for all electrical upgrades and associated facilities will follow the Avian Power Line Interaction Committee's *Reducing Avian Collisions with Power Lines: The State of the Art in 2012* (APLIC 2012).

B-38 All vegetation clearing required by a project will occur outside of the nesting season for migratory bird species (15 February through 31 August). If avoiding the nesting season is not possible, pre-clearance nesting surveys will be conducted by the project biologist to determine whether any active nests are located within the area and to ensure that work will avoid impacting active nests. If active nests are found, the scheduled work will be postponed until the project biologist, in coordination with NBC NRO, determines that the nest is no longer active.

5.8 CULTURAL RESOURCES

Mitigation Measures and Impact Avoidance and Minimization Measures

Mitigation Measures

Potential adverse effects to historic properties on SSTC-South from specific undertakings would be identified during the installation's project review process. As identified in the ICRMP (ASM 2010), this approval process applies to "all proposed facility C&D, alterations, real estate actions, equipment installation, and maintenance and repair." During project approval review (Attachment D to the PA), undertakings are reviewed by qualified Commander, Navy Region Southwest personnel for the potential to affect historic properties. Potential effects from the Proposed Action alternatives would be addressed by implementation of the mitigation measures presented in the ICRMP (ASM 2010) and NBC PA (U.S. Navy 2003), and in accordance with 36 C.F.R. § 800 (Appendix E).

CR-1 If project-related ground-disturbing activities would have an effect on a site, the appropriate mitigation measures for the project would be identified by the Commander, Navy Region Southwest Cultural Resources Manager (CRM). Such measures include the following:

- Archaeological and Native American cultural monitoring;
- Preparation of a monitoring and discovery plan;
- Data recovery;
- Preparation of a Historic American Building Survey; and
- Preparation of a Historic American Engineering Record.

CR-2 As discussed in Section 3.8.2.1 of this EIS and the ICRMP (ASM 2010:71):

- If the APE for construction, maintenance, repair, or renovation activities is within 300 feet (100 meters) of an NRHP-eligible building/structure, the APE would be expanded to include that building/structure.
- If any part of a known archaeological site is within the APE for ground-disturbing activities, which includes associated staging or laydown areas and a 30-meter area around the disturbance, the APE would be expanded to include the entire archaeological site.

CR-3 Undertakings that require no further review under the NBC project review process are presented in the ICRMP (ASM 2010) and PA (Attachment E). These include the following:

- Ground-disturbing activities outside of areas of archaeological sensitivity;
- Undertakings involving buildings, structures, or objects that are not listed or eligible for listing in the NRHP;
- Undertakings determined by qualified Commander, Navy Region Southwest personnel to have no adverse effect to historic properties;

- Repairs, rehabilitation, alterations, and/or maintenance work conducted in accordance with the Secretary of the Interior's Standards for Rehabilitation of Historic Properties (National Park Service 1995);
- Project redesign to avoid the historic property; and
- Emergency work.

Consultation would be initiated under 36 C.F.R. § 800.6 should qualified Commander, Navy Region Southwest personnel determine that the undertaking would have an adverse effect on a historic property.

CR-4 The procedures to resolve adverse effects to historic properties and Traditional Cultural Properties are presented in the ICRMP (ASM 2010), and include the following:

- Consultation with SHPO/Tribal Historic Preservation Officer and other appropriate parties to mitigate the adverse effect, consistent with 36 C.F.R. § 800.6; and
- Negotiation and execution of an MOA between SSTC-South, SHPO, and other parties as appropriate.

CR-5 In the unlikely event of the discovery of buried resources (archaeological or human remains), adverse effects would be addressed through implementing the mitigation measures described in the ICRMP (ASM 2010):

- Suspension of ground-disturbing activities in the affected area, securing of the area, and notification of the Commander, Navy Region Southwest CRM; and
- Notification to SHPO and other appropriate parties by the CRM of the nature of the discovery, planned treatment, and timeline.

CR-6 In the event that human remains are found, the following would also occur:

- Naval Criminal Investigative Service would be notified;
- The CRM would consider the applicability of the NAGPRA; and
- If NAGPRA is applicable, the CRM would initiate consultation with the appropriate state and Federal agencies and federally recognized tribes in accordance with established NAGPRA procedures (ASM 2010:111–112).

Implementation of these measures would address potential adverse effects to historic properties. The Navy Host or Tenant Command would be responsible for the mitigation measures.

Impact Avoidance and Minimization Measures

No impact avoidance and minimization measures are proposed.

5.9 TRAFFIC AND CIRCULATION

Mitigation Measures and Impact Avoidance and Minimization Measures

The following mitigation measures/impact avoidance and minimization measures were developed to reduce impacts to traffic and circulation. The Navy will fund these off-site improvements through the Defense Access Road program.

5.9.1 Alternative 1 – SSTC-South Bunker Demolition Alternative (Preferred Alternative)

5.9.1.1 Year 2024 with Alternative 1 Conditions

Intersection analysis was performed for Year 2024 with one and two CVNs in port with the addition of Alternative 1 traffic conditions. An analysis of Year 2024 with Alternative 1 conditions at each of the study intersections indicates that the following six study intersections would have a significant impact due to implementation of Alternative 1:

- Silver Strand Blvd (SR-75) & Tulagi Rd
- Silver Strand Blvd (SR-75) & Rainbow Dr
- 7th St & Palm Ave (SR-75)
- 9th St & Palm Ave (SR-75)
- 13th St & Palm Ave (SR-75)
- Saturn Blvd/19th St & Palm Ave (SR-75)

Mitigation Measures

The following mitigation measures were identified and the Navy Host or Tenant Command/Caltrans/City of Imperial Beach would be responsible for the mitigation measures:

T-1 The significant impact at the intersection of Silver Strand Boulevard (SR-75) and Tulagi Road during the PM peak-hour can be mitigated by modifying the traffic signal timing by extending the green time on Silver Strand Boulevard (SR-75) by ten seconds to reflect a different traffic pattern that would be in place with the addition of the Proposed Action. The traffic signal is uncoordinated and the cycle length would be adjusted to include this additional ten seconds. No changes to the existing right-of-way and pavement width would be required.

T-2 The significant impact at the intersection of Silver Strand Boulevard (SR-75) and Rainbow Drive during the AM peak-hour can be mitigated by modifying the lane configuration on the eastbound Rainbow Drive approach. Changing the existing through-right lane into a left-through-right lane and extending the existing turn pocket to the intersection of Bonito Avenue increases capacity and queue area for this approach. The extension of the turn pocket would result in a loss of two 2-hour limit parking spaces. No changes to the existing right-of-way and pavement width would be required.

T-3 The significant impact at the intersection of 9th Street and Palm Avenue (SR-75) during the PM peak-hour can be mitigated by restriping the northbound and southbound approaches to have exclusive left-turn lanes and a shared through-right lane. The signal operations could

then be changed from split phasing to protected left-turn phasing for these approaches. The intersection is currently split-phase for northbound and southbound movements and requires a significant amount of time for pedestrians to cross Palm Avenue twice: once with the southbound movements and once with the northbound movements. By changing the phasing, it allows the northbound and southbound through movements and pedestrian crossings to occur simultaneously, ultimately reducing the amount of time needed for 9th Street and providing more green time for Palm Avenue (SR-75).

T-4 The significant impact at the intersection of 13th Street and Palm Avenue (SR-75) during the PM peak-hour can be mitigated by removing the pedestrian crossing on the east leg of the intersection and shortening the corresponding northbound split time. The intersection is currently split-phase for northbound and southbound movements and requires a significant amount of time for pedestrians to cross Palm Avenue twice: once with the southbound movements and once with the northbound movements. By providing just a single crosswalk, it allows more green time to be assigned to the heavy movements on Palm Avenue (SR-75).

T-5 The significant impact at the intersection of Saturn Boulevard/19th Street and Palm Avenue (SR-75) during the PM peak-hour can be mitigated with the addition of a second westbound left-turn lane. There is currently a single westbound left-turn lane adjacent to an eight-foot-wide raised median. To fit in a second left-turn lane within the existing curb width, the median would need to be reduced to four feet wide and the eastbound through lane widths would need to be narrowed slightly. The bike lane would operate similar to its current layout. Although the improvement does not improve intersection operations to LOS D or better, it restores operations to an average delay better than the No-Action Alternative and therefore mitigates the significant project impact.

T-6 The significant impact at the intersection of 7th Street and Silver Strand Boulevard (SR-75) could be mitigated by striping the southbound approach to include a left-turn pocket and through-right lane. This would require removing some parking along 7th Street to make room for the additional lane, estimated to be two parking spaces.

Prior to implementation, the proposed improvements should be confirmed with Caltrans and the City of Imperial Beach to ensure they are still necessary and are consistent with other planned improvements not known at the time of this study.

Impact Avoidance and Minimization Measures

The following impact avoidance and minimization measures were identified:

t-1 It is recommended that the new entry control point for SSTC-South is implemented as early as possible to accommodate the Proposed Action development. This new entry control point is necessary to prevent traffic in Imperial Beach from becoming excessive and to provide appropriate capacity and security facilities to process the increasing number of vehicles accessing SSTC-South. If this entry control point is not implemented, additional impacts and mitigation measures identified in the technical study in Appendix D(2) would apply.

t-2 Include construction management in the design aspect of the Proposed Action.

t-3 Coordinate construction activity with NBC representatives to monitor daily activity levels.

t-4 Schedule heavy periods of vehicle activity during non-peak hours.

t-5 Encourage carpooling and staggered work hours for construction workers.

t-6 Notify public stakeholders of times where abnormal construction activity would occur.

t-7 Work with Caltrans to establish appropriate traffic control management at the interim gate at the Hooper Boulevard entrance until the proposed Entry Control Point is fully constructed.

t-8 Monitor traffic at the existing entrance to SSTC-South located in Imperial Beach and incorporate measures as necessary to maintain traffic volumes less than or equal to the existing volume.

t-9 Commit to providing MTS bus stops at the new Entry Control Point intersection.

t-10 Form an internal Navy Traffic Advisory Committee to address traffic concerns.

t-11 Prepare a Transportation Demand Management (TDM) Plan for Naval Base Coronado. This TDM Plan would consider the following topics:

- Military Transportation Incentive Program (TIP)
- SANDAG's iCommute program
- Transit Network
- Bicycle Network
- Bikesharing programs
- Pedestrian
- Carpool/Vanpool
- Intra-Base shuttle system
- Carsharing programs
- Parking supply limitations
- Parking fees
- Ferry service
- Entry Control Point staffing
- Signal timings
- Work hours

t-12 Continue to implement the goals of the 2014 MOA between the Navy and SANDAG to reduce drive-alone work trips.

t-13 Continue to coordinate with SANDAG to understand and apply region-wide transportation demand management tools, such as the following SANDAG documents noted provided during the EIS comment period[9]:

[9] Comment number 9.52, Chapter 10, Naval Base Coronado Coastal Campus Environmental Impact Study.

- Designing for Smart Growth, Creating Great Places in the San Diego Region
- Planning and Designing for Pedestrians, Model Guidelines for the San Diego Region
- Trip Generation for Smart Growth
- Parking Strategies for Smart Growth
- Regional Multimodal Transportation Analysis: Alternative Approaches for Preparing Multimodal Transportation Analysis in EIRs
- Integrating Transportation Demand Management into the Planning and Development Process – A Reference for Cities
- Riding to 2050, the San Diego Regional Bike Plan
- Healthy Communities Atlas

The results of the Year 2024 (1 CVN) with Alternative 1 intersection mitigation analysis are contained in Table 5-1.

Table 5-1
Year 2024 (1 CVN) with Alternative 1 (Preferred Alternative) Conditions –
Mitigated Peak-Hour Intersection LOS Summary

Intersection		Year 2024 No Action Alternative		Before Year 2024 Mitigation		After Year 2024 Mitigation	
		AM	PM	AM	PM	AM	PM
10	Silver Strand Blvd (SR-75) & Tulagi Rd	3.0 (A)	**70.7 (E)**	3.6 (A)	**78.1 (E)**	3.6 (A)	49.6 (D)
18	Silver Strand Blvd (SR-75) & Rainbow Dr	79.7 (E)	25.0 (C)	**141.6 (F)**	47.2 (D)	53.7 (D)	28.9 (C)
26	9th St & Palm Ave (SR-75)	40.0 (D)	48.4 (D)	49.8 (D)	**58.8 (E)**	43.0 (D)	49.5 (D)
28	13th St & Palm Ave (SR-75)	37.1 (D)	47.3 (D)	40.2 (D)	**59.4 (E)**	39.6 (D)	53.6 (D)
30	Saturn Blvd/19th St & Palm Ave (SR-75)	50.9 (D)	**175.5 (F)**	**61.1 (E)**	**215.7 (F)**	53.1 (D)	**106.4 (F)**

[1] Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle.
[2] LOS calculations are based on the methodology outlined in the 2000 Highway Capacity Manual and performed using Synchro 8.0.
Note: **Bold** values indicate intersections operating at LOS E or F.

The results of the Year 2024 (2 CVNs) with Alternative 1 intersection mitigation analysis are contained in Table 5-2.

Table 5-2
Year 2024 (2 CVNs) with Alternative 1 (Preferred Alternative) Conditions – Mitigated Peak-Hour Intersection LOS Summary

Intersection		Year 2024 No Action Alternative		Before Year 2024 Mitigation		After Year 2024 Mitigation	
		AM	PM	AM	PM	AM	PM
10	Silver Strand Blvd (SR-75) & Tulagi Rd	3.0 (A)	**77.3 (E)**	3.6 (A)	**84.6 (F)**	3.6 (A)	38.1 (D)
18	Silver Strand Blvd (SR-75) & Rainbow Dr	**85.1 (F)**	25.6 (C)	**148.7 (F)**	52.2 (D)	**58.7 (E)**	32.4 (C)
19	7th St & Silver Strand Blvd (SR-75)	**114.0 (F)**	**67.0 (E)**	**113.3 (F)**	**69.8 (E)**	**59.6 (E)**	54.9 (D)
26	9th St & Palm Ave (SR-75)	40.3 (D)	49.0 (D)	52.8 (D)	**61.4 (E)**	44.2 (D)	50.4 (D)
28	13th St & Palm Ave (SR-75)	37.3 (D)	48.1 (D)	40.7 (D)	**61.7 (E)**	39.9 (D)	54.6 (D)
30	Saturn Blvd/19th St & Palm Ave (SR-75)	51.6 (D)	**179.4 (F)**	**63.6 (E)**	**220.4 (F)**	50.9 (D)	**109.6 (F)**

[1] Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle.
[2] LOS calculations are based on the methodology outlined in the 2000 Highway Capacity Manual and performed using Synchro 8.0.
Note: **Bold** values indicate intersections operating at LOS E or F.

5.9.1.2 Year 2040 with Alternative 1 Conditions

Intersection analysis was performed for Year 2040 with one and two CVNs in port with the addition of Alternative 1 traffic conditions. An analysis of Year 2040 (1 CVN) with Alternative 1 conditions at each of the study intersections indicates that seven study intersections would have a significant impact that would require mitigation due to implementation of Alternative 1:

- Silver Strand Blvd (SR-75) & Tulagi Rd
- Silver Strand Blvd (SR-75) & Rainbow Dr
- 7th St & Palm Ave (SR-75)
- 9th St & Palm Ave (SR-75)
- 13th St & Palm Ave (SR-75)
- Saturn Blvd/19th St & Palm Ave (SR-75)
- I-5 SB Exit Ramp & Palm Ave (SR-75)

An analysis of Year 2040 (2 CVNs) with Alternative 1 conditions at each of the study intersections indicates that one additional study intersection would have a significant impact that would require mitigation compared with the 2040 (1 CVN) with Alternative 1 conditions:

- Silver Strand Blvd (SR-75) & Fiddler's Cove Dwy

Mitigation Measures

Mitigation measure T-1 would mitigate the significant impact at Silver Strand Boulevard (SR-75) and Tulagi Road.

Mitigation measure T-2 would mitigate the significant impact at Silver Strand Boulevard (SR-75) and Rainbow Drive.

Mitigation measure T-3 would mitigate the significant impact at 9th Street and Palm Avenue (SR-75).

Mitigation measure T-4 would mitigate the significant impact at 13th Street and Palm Avenue (SR-75).

Mitigation measure T-5 would mitigate the significant impact at Saturn Boulevard/19th Street & Palm Avenue (SR-75).

Mitigation measure T-6 would mitigate the significant impact at 7th Street and Silver Strand Boulevard (SR-75).

T-7 The significant impact at the intersection of Palm Avenue (SR-75) and I-5 Southbound Exit Ramp during the AM and PM peak hours can be partially mitigated by extending the southbound right-turn pockets to provide additional queueing. There is no feasible mitigation to improve intersection operations.

Prior to implementation, the proposed improvement should be confirmed with Caltrans to ensure it is still necessary and is consistent with other planned improvements not known at the time of this study.

T-8 To improve the intersection of Silver Strand Boulevard (SR-75) and Fiddler's Cove Driveway, the westbound left turns out of Fiddler's Cove Driveway could be restricted. This impact was determined only under Year 2040 (2 CVNs) conditions and only affects vehicles making a left turn out of Fiddler's Cove Driveway, which is Navy-generated traffic. The Navy should monitor the delays and safety of vehicles at this location and coordinate with Caltrans to determine the feasibility of restricting left turns when warranted.

The results of the Year 2040 (1 CVN) with Alternative 1 intersection mitigation analysis are contained in Table 5-3.

Table 5-3
Year 2040 (1 CVN) with Alternative 1 (Preferred Alternative) Conditions –
Mitigated Peak-Hour Intersection LOS Summary

Intersection		Year 2040 No Action Alternative		Before Year 2040 Mitigation		After Year 2040 Mitigation	
		AM	PM	AM	PM	AM	PM
10	Silver Strand Blvd (SR-75) & Tulagi Rd	3.2 (A)	**107.6 (F)**	3.8 (A)	**114.4 (F)**	3.8 (A)	42.7 (D)
18	Silver Strand Blvd (SR-75) & Rainbow Dr	**125.4 (F)**	32.4 (C)	**196.7 (F)**	**80.4 (F)**	**81.4 (F)**	41.4 (D)
19	7th St & Silver Strand Blvd (SR-75)	**149.1 (F)**	**81.9 (F)**	**154.8 (F)**	**85.8 (F)**	**73.5 (E)**	**60.1 (E)**
26	9th St & Silver Strand Blvd (SR-75)	47.6 (D)	52.7 (D)	**86.5 (F)**	**73.3 (E)**	46.8 (D)	53.4 (D)
28	13th St & Palm Ave (SR-75)	39.1 (D)	53.9 (D)	43.9 (D)	**76.3 (E)**	43.6 (D)	54.0 (D)
30	Saturn Blvd/19th St & Palm Ave (SR-75)	**76.0 (E)**	**212.7 (F)**	**99.8 (F)**	**254.5 (F)**	**66.7 (E)**	**142.1 (F)**
31	I-5 SB Exit Ramps & Palm Ave (SR-75)	48.6 (D)	**75.7 (E)**	**68.1 (E)**	**85.7 (F)**	**68.1 (E)**	**85.7 (F)**

[1] Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle.
[2] LOS calculations are based on the methodology outlined in the 2000 Highway Capacity Manual and performed using Synchro 8.0.
Note: **Bold** values indicate intersections operating at LOS E or F.

The results of the Year 2040 (2 CVNs) with Alternative 1 intersection mitigation analysis are contained in Table 5-4.

Table 5-4
Year 2040 (2 CVNs) with Alternative 1 (Preferred Alternative) Conditions – Mitigated Peak-Hour Intersection LOS Summary

Intersection		Year 2040 No Action Alternative		Before Year 2040 Mitigation		After Year 2040 Mitigation	
		AM	PM	AM	PM	AM	PM
10	Silver Strand Blvd (SR-75) & Tulagi Rd	3.3 (A)	**114.6 (F)**	3.9 (A)	**121.2 (F)**	3.9 (A)	46.3 (D)
11	Silver Strand Blvd (SR-75) & Fiddler's Cove Dwy	**36.5 (E)**	25.9 (D)	34.7 (D)	**35.5 (E)**	34.7 (D)	11.7 (B)
18	Silver Strand Blvd (SR-75) & Rainbow Dr	**132.3 (F)**	35.1 (D)	**204.3 (F)**	**86.7 (E)**	**86.5 (F)**	42.9 (D)
19	7th St & Silver Strand Blvd (SR-75)	**148.0 (F)**	**81.7 (F)**	**158.0 (F)**	**87.6 (F)**	**78.1 (E)**	**62.4 (E)**
26	9th St & Silver Strand Blvd (SR-75)	49.7 (D)	53.6 (D)	**92.2 (F)**	**77.0 (E)**	52.7 (D)	54.9 (D)
28	13th St & Palm Ave (SR-75)	39.4 (D)	**55.0 (E)**	44.9 (D)	**79.6 (E)**	45.6 (D)	55.0 (D)
30	Saturn Blvd/19th St & Palm Ave (SR-75)	**78.1 (E)**	**216.7 (F)**	**103.6 (F)**	**259.3 (F)**	**68.4 (E)**	**142.8 (F)**
31	I-5 SB Exit Ramps & Palm Ave (SR-75)	54.5 (D)	**77.0 (E)**	**73.7 (E)**	**87.0 (F)**	**73.7 (E)**	**87.0 (F)**

[1] Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle.
[2] LOS calculations are based on the methodology outlined in the 2000 Highway Capacity Manual and performed using Synchro 8.0.
Note: **Bold** values indicate intersections operating at LOS E or F.

The Navy Host or Tenant Command/Caltrans/City of Imperial Beach would be responsible for the mitigation measures.

Impact Avoidance and Minimization Measures

In addition, impact avoidance and minimization measures t-1 though t-13 are also recommended to prevent traffic in Imperial Beach from becoming excessive and to provide appropriate capacity and security facilities to process the increasing number of vehicles accessing SSTC-South. If this entry control point is not implemented, additional impacts and mitigation measures identified in the technical study in Appendix D(2) would apply.

5.9.2 Alternative 2 – SSTC-South Bunker Retention Alternative

The traffic and circulation analysis for Alternative 2 would be identical to the findings for Alternative 1. Therefore, the significant impacts and the mitigations measures at the study intersections for Alternative 2 would be the same as those that were identified for Alternative 1 in Section 5.9.1.

5.9.3 Alternative 3 – Multi-Installation Alternative

5.9.3.1 Year 2024 with Alternative 3 Conditions

Intersection analysis was performed for Year 2024 with one and two CVNs in port with the addition of Alternative 3 traffic conditions. An analysis of Year 2024 with Alternative 3 conditions at each of the study intersections indicates that the following six study intersections would have a significant impact that would require mitigation due to implementation of Alternative 1:

- Orange Ave (SR-75) & Fourth St (SR-75)
- Silver Strand Blvd (SR-75) & Tulagi Rd
- Silver Strand Blvd (SR-75) & Rainbow Dr
- 9th St & Palm Ave (SR-75)
- 13th St & Palm Ave (SR-75)
- Saturn Blvd/19th St & Palm Ave (SR-75)

Mitigation Measures

The following mitigation measures were identified:

No reasonable and feasible mitigation measure was identified for the intersection of Orange Avenue (SR-75) and Fourth Street (SR-75).

Mitigation measure T-1 would mitigate the significant impact at Silver Strand Boulevard (SR-75) and Tulagi Road.

Mitigation measure T-2 would mitigate the significant impact at Silver Strand Boulevard (SR-75) and Rainbow Drive.

Mitigation measure T-3 would mitigate the significant impact at 9th Street and Palm Avenue (SR-75).

Mitigation measure T-4 would mitigate the significant impact at 13th Street and Palm Avenue (SR-75).

Mitigation measure T-5 would mitigate the significant impact at Saturn Boulevard/19th Street & Palm Avenue (SR-75).

The results of the Year 2024 (1 CVN) with Alternative 3 intersection mitigation analysis are contained in Table 5-5.

Table 5-5
Year 2024 (1 CVN) with Alternative 3 Conditions –
Mitigated Peak-Hour Intersection LOS Summary

Intersection		Year 2024 No Action Alternative		Before Year 2024 Mitigation		After Year 2024 Mitigation	
		AM	PM	AM	PM	AM	PM
10	Silver Strand Blvd (SR-75) & Tulagi Rd	3.0 (A)	**70.7 (E)**	3.5 (A)	**76.6 (E)**	3.5 (A)	48.5 (D)
18	Silver Strand Blvd (SR-75) & Rainbow Dr	**79.7 (E)**	25.0 (C)	**132.5 (F)**	41.8 (D)	51.7 (D)	28.0 (C)
26	9th St & Palm Ave (SR-75)	40.1 (D)	48.4 (D)	47.0 (D)	**56.3 (E)**	41.8 (D)	48.6 (D)
28	13th St & Palm Ave (SR-75)	37.1 (D)	47.3 (D)	39.6 (D)	**56.7 (E)**	39.2 (D)	52.4 (D)
30	Saturn Blvd/19th St & Palm Ave (SR-75)	50.9 (D)	**175.5 (F)**	**58.9 (E)**	**210.0 (F)**	48.8 (D)	**102.6 (F)**

[1] Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle.
[2] LOS calculations are based on the methodology outlined in the 2000 Highway Capacity Manual and performed using Synchro 8.0.
Note: **Bold** values indicate intersections operating at LOS E or F.

The results of the Year 2024 (2 CVNs) with Alternative 3 intersection mitigation analysis are contained in Table 5-6.

Table 5-6
Year 2024 (2 CVNs) with Alternative 3 Conditions –
Mitigated Peak-Hour Intersection LOS Summary

Intersection		Year 2024 No Action Alternative		Before Year 2024 Mitigation		After Year 2024 Mitigation	
		AM	PM	AM	PM	AM	PM
4	Orange Ave (SR-75) & Fourth St (SR-75)	38.3 (D)	**106.1 (F)**	38.3 (D)	**107.2 (F)**	38.3 (D)	**107.2 (F)**
10	Silver Strand Blvd (SR-75) & Tulagi Rd	3.0 (A)	**77.3 (E)**	3.6 (A)	**83.0 (F)**	3.6 (A)	37.5 (D)
18	Silver Strand Blvd (SR-75) &Rainbow Dr	**85.1 (F)**	25.6 (C)	**139.4 (F)**	46.1 (D)	54.2 (D)	28.8 (C)
26	9th St & Palm Ave (SR-75)	40.3 (D)	49.0 (D)	49.2 (D)	**58.3 (E)**	42.7 (D)	49.3 (D)
28	13th St & Palm Ave (SR-75)	37.3 (D)	48.1 (D)	40.0 (D)	**58.8 (E)**	39.4 (D)	53.2 (D)
30	Saturn Blvd/19th St & Palm Ave (SR-75)	51.6 (D)	**179.4 (F)**	**60.9 (E)**	**214.4 (F)**	49.6 (D)	**105.7 (F)**

[1] Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle.
[2] LOS calculations are based on the methodology outlined in the 2000 Highway Capacity Manual and performed using Synchro 8.0.
Note: **Bold** values indicate intersections operating at LOS E or F.

The Navy Host or Tenant Command/Caltrans/City of Imperial Beach would be responsible for the mitigation measures.

Impact Avoidance and Minimization Measures

In addition, impact avoidance and minimization measures t-1 though t-13 are also recommended to prevent traffic in Imperial Beach from becoming excessive and to provide appropriate capacity and security facilities to process the increasing number of vehicles accessing SSTC-South. If this entry control point is not implemented, additional impacts and mitigation measures identified in the technical study in Appendix D(2) would apply.

5.9.3.2 Year 2040 with Alternative 3 Conditions

Intersection analysis was performed for Year 2040 with one and two CVNs in port with the addition of Alternative 3 traffic conditions. An analysis of Year 2040 with Alternative 3 conditions at each of the study intersections indicates that the following eight study intersections would have a significant impact that would require mitigation due to implementation of Alternative 3:

- Orange Ave (SR-75) & Fourth St (SR-75)
- Silver Strand Blvd (SR-75) & Tulagi Rd
- Silver Strand Blvd (SR-75) & Rainbow Dr
- 7th Street & Palm Ave (SR-75)
- 9th Street & Palm Ave (SR-75)
- 13th Street & Palm Ave (SR-75)
- Saturn Blvd/19th St & Palm Ave (SR-75)
- I-5 SB Exit Ramp & Palm Ave (SR-75)

Mitigation Measures

No reasonable and feasible mitigation measure was identified for the intersection of Orange Avenue (SR-75) and Fourth Street (SR-75).

Mitigation measure T-1 would mitigate the significant impact at Silver Strand Boulevard (SR-75) and Tulagi Road.

Mitigation measure T-2 would mitigate the significant impact at Silver Strand Boulevard (SR-75) and Rainbow Drive.

Mitigation measure T-3 would mitigate the significant impact at 9th Street and Palm Avenue (SR-75).

Mitigation measure T-4 would mitigate the significant impact at 13th Street and Palm Avenue (SR-75).

Mitigation measure T-5 would mitigate the significant impact at Saturn Boulevard/19th Street & Palm Avenue (SR-75).

Mitigation measure T-6 would mitigate the significant impact at 7th Street and Silver Strand Boulevard (SR-75).

Mitigation measure T-7 would mitigate the significant impact at I-5 Southbound Exit Ramp and Palm Avenue (SR-75).

The results of the Year 2040 (1 CVN) with Alternative 3 intersection mitigation analysis are contained in Table 5-7.

Table 5-7
Year 2040 (1 CVN) with Alternative 3 Conditions –
Mitigated Peak-Hour Intersection LOS Summary

Intersection		Year 2040 No Action Alternative		Before Year 2040 Mitigation		After Year 2040 Mitigation	
		AM	PM	AM	PM	AM	PM
10	Silver Strand Blvd (SR-75) & Tulagi Rd	3.2 (A)	**107.6 (F)**	3.8 (A)	**112.8 (F)**	3.8 (A)	42.2 (D)
18	Silver Strand Blvd (SR-75) & Rainbow Dr	**125.4 (F)**	32.4 (C)	**187.0 (F)**	**72.8 (E)**	**75.3 (E)**	38.2 (D)
19	7th St & Silver Strand Blvd (SR-75)	**149.1 (F)**	**81.9 (F)**	**151.4 (F)**	**84.1 (F)**	**68.4 (E)**	**57.9 (E)**
26	9th St & Silver Strand Blvd (SR-75)	47.6 (D)	52.7 (D)	**79.8 (E)**	**69.1 (E)**	45.4 (D)	52.1 (D)
28	13th St & Palm Ave (SR-75)	39.1 (D)	53.9 (D)	42.8 (D)	**71.9 (E)**	43.2 (D)	51.7 (D)
30	Saturn Blvd/19th St & Palm Ave (SR-75)	**76.0 (E)**	**212.7 (F)**	**95.8 (F)**	**248.6 (F)**	**65.3 (E)**	**137.1 (F)**
31	I-5 SB Exit Ramps & Palm Ave (SR-75)	48.6 (D)	**75.7 (E)**	**64.5 (F)**	**84.4 (F)**	**64.5 (F)**	**84.4 (F)**

[1] Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle.
[2] LOS calculations are based on the methodology outlined in the 2000 Highway Capacity Manual and performed using Synchro 8.0.
Note: **Bold** values indicate intersections operating at LOS E or F.

The Navy Host or Tenant Command/Caltrans/City of Imperial Beach would be responsible for the mitigation measures.

The results of the Year 2040 (2 CVNs) with Alternative 3 intersection mitigation analysis are contained in Table 5-8.

Impact Avoidance and Minimization Measures

In addition, impact avoidance and minimization measures t-1 though t-13 are also recommended to prevent traffic in Imperial Beach from becoming excessive and to provide appropriate capacity and security facilities to process the increasing number of vehicles accessing SSTC-South. If this entry control point is not implemented, additional impacts and mitigation measures identified in the technical study in Appendix D(2) would apply.

Table 5-8
Year 2040 (2 CVNs) with Alternative 3 Conditions –
Mitigated Peak-Hour Intersection LOS Summary

Intersection		Year 2040 No Action Alternative		Before Year 2040 Mitigation		After Year 2040 Mitigation	
		AM	PM	AM	PM	AM	PM
4	Orange Ave (SR-75) & Fourth Ave (SR-75)	38.3 (D)	**107.3 (F)**	38.3 (D)	**108.4 (F)**	38.3 (D)	**108.4 (F)**
10	Silver Strand Blvd (SR-75) & Tulagi Rd	3.3 (A)	**114.6 (F)**	3.8 (A)	**119.7 (F)**	3.8 (A)	45.7 (D)
18	Silver Strand Blvd (SR-75) & Rainbow Dr	**132.3 (F)**	35.1 (D)	**194.6 (F)**	**78.9 (E)**	**80.2 (F)**	42.6 (D)
19	7th St & Silver Strand Blvd (SR-75)	**148.0 (F)**	**81.7 (F)**	**154.0 (F)**	**85.3 (F)**	**72.5 (E)**	**59.6 (E)**
26	9th St & Silver Strand Blvd (SR-75)	49.7 (D)	53.6 (D)	**85.3 (F)**	**72.4 (E)**	52.1 (D)	53.2 (D)
28	13th St & Palm Ave (SR-75)	39.4 (D)	**55.0 (E)**	43.6 (D)	**75.3 (E)**	49.6 (D)	53.3 (D)
30	Saturn Blvd/19th St & Palm Ave (SR-75)	**78.1 (E)**	**216.7 (F)**	**99.3 (E)**	**253.2 (F)**	**66.5 (E)**	**126.5 (F)**
31	I-5 SB Exit Ramps & Palm Ave (SR-75)	54.5 (D)	**77.0 (E)**	**70.3 (E)**	**85.7 (F)**	**70.3 (E)**	**85.7 (F)**

[1] Delay refers to the average control delay for the entire intersection, measured in seconds per vehicle.
[2] LOS calculations are based on the methodology outlined in the 2000 Highway Capacity Manual and performed using Synchro 8.0.
Note: **Bold** values indicate intersections operating at LOS E or F.

5.10 SOCIOECONOMICS AND ENVIRONMENTAL JUSTICE

Mitigation Measures and Impact Avoidance and Minimization Measures

Mitigation Measures

No mitigation measures are proposed.

Impact Avoidance and Minimization Measures

The following avoidance and minimization measures are recommended:

S-1 Pedestrian routes along the transportation corridor shall be clearly defined.

S-2 Residents and businesses in the affected census tracts shall be notified of increased construction traffic via direct mail and road signage.

S-3 Emergency public services and other appropriate law enforcement agencies shall be notified of increased traffic and how construction traffic may affect emergency response times.

5.11 PUBLIC HEALTH AND SAFETY

Mitigation Measures and Impact Avoidance and Minimization Measures

Mitigation Measures

No mitigation measures are proposed.

Impact Avoidance and Minimization Measures

Measures for specific resources that could affect public health and safety (e.g., hazardous materials and waste) would be implemented. Current measures in place to ensure that nonparticipants are not endangered by Navy actions would continue. Additional measures would include:

PH&S-1 Compliance with all standard construction safety procedures and applicable subparts of the Occupational Safety and Health Administration standards.

PH&S-2 Preparation of a detailed demolition plan.

5.12 UTILITIES AND PUBLIC SERVICES

Mitigation Measures and Impact Avoidance and Minimization Measures

No mitigation measures or impact avoidance and minimization measures would be required with the proposed utility upgrades, which are addressed in Chapter 2.

5.13 COASTAL USES AND RESOURCES

Mitigation Measures and Impact Avoidance and Minimization Measures

Mitigation Measures

No mitigation measures are proposed.

Impact Avoidance and Minimization Measures

The Proposed Action alternatives would not result in significant coastal resources impacts with the implementation of the water quality measures specified in Section 5.5 and summarized below:

C-1 Implement project-specific SWPPP with BMPs relative to site-specific needs and conditions.

C-2 Include sustainable designs (i.e., LID, energy-efficient design, and integrated layout).

5.14 AESTHETICS

Mitigation Measures and Impact Avoidance and Minimization Measures

Mitigation Measures

No mitigation measures are proposed.

Impact Avoidance and Minimization Measures

Measures that would minimize the overall visual affect and that would enhance the aesthetics of the Proposed Action would include:

A-1 Context-sensitive architectural treatments, applied consistently throughout the development;

A-2 Low-reflectivity building materials in natural, earth-tone colors;

A-3 Shielding of permanent outdoor lighting installed at proposed facilities limit light trespass and ambient light pollution to achieve dark-sky compliance to the extent possible. (Additional methods to reduce light pollution [e.g., dusk-to-dawn sensor activation, low-lumen or limited-spectrum lighting] applied as possible; light poles and light placement placed at lowest height practical [considering security constraints]); and

A-4 Context and water-sensitive landscape treatments, including visual buffers consisting of earthen berms, vegetated buffers, screening trees and right-of-way landscape improvements along public-facing adjacencies; to be approved (by NBC NRO staff).

CHAPTER 6.0
OTHER CONSIDERATIONS REQUIRED BY NEPA

6.1 POSSIBLE CONFLICTS WITH OBJECTIVES OF FEDERAL, STATE, AND LOCAL PLANS, POLICIES, AND CONTROLS

Implementation of the Proposed Action for the NBC Coastal Campus EIS would not conflict with the objectives or requirements of Federal, state, regional, or local plans, policies, or legal requirements. The Navy has consulted with regulatory agencies as appropriate during the NEPA process and prior to implementation of the Proposed Action to ensure that requirements are met. Table 6-1 provides a summary of environmental compliance requirements that may apply.

Table 6-1
Summary of Environmental Compliance for the Proposed Action

Plans, Policies, and Controls	Responsible Agency	Status of Compliance
The National Environmental Policy Act (NEPA) of 1969 (42 United States Code [U.S.C.] §§ 4321 et seq.); Council on Environmental Quality (CEQ) Regulations for Implementing the Procedural Provisions of NEPA (40 Code of Federal Regulations [C.F.R.] §§ 1500–1508); Department of the Navy Procedures for Implementing NEPA (32 C.F.R. § 775)	U.S. Navy	This Environmental Impact Statement (EIS) was prepared in accordance with NEPA, CEQ regulations, and Navy NEPA procedures. Public participation and review have been conducted in compliance with NEPA.
Clean Air Act (CAA) (42 U.S.C. §§ 7401 et seq.); CAA General Conformity Rule (40 C.F.R. § 93[B]); State Implementation Plan (SIP)	U.S. Environmental Protection Agency (USEPA), San Diego Air Pollution Control District	The Proposed Action would be compatible with attainment and maintenance goals established in the SIP. A CAA conformity determination would not be required because emissions attributable to the Proposed Action alternatives would be below the *de minimis* thresholds for requiring a full conformity determination, and the General Conformity Rule is therefore not applicable. A signed Record of Non-Applicability is included in Appendix B.
Federal Water Pollution Control Act (Clean Water Act [CWA]) (33 U.S.C. §§ 1344 et seq.)	USEPA	CWA Section 401 water quality certification and CWA Section 404 permit would be prepared for the proposed construction activities.
Coastal Zone Management Act (CZMA) (16 C.F.R. §§ 1451 et seq.)	California Coastal Commission (CCC)	The Navy consulted with the CCC in compliance with the CZMA, which states that Federal actions that have reasonably foreseeable effects on coastal uses or resources must be consistent to the maximum extent practicable with the enforceable policies of approved state coastal management programs. Applicable sections of the California Coastal Act of 1976 (14 California Code of Regulations § 13001 et seq.) were

Plans, Policies, and Controls	Responsible Agency	Status of Compliance
		thoroughly analyzed against the Proposed Action alternatives. The Navy prepared a coastal consistency determination for the Proposed Action and the CCC concurred with the determination on 12 November 2014 (Appendix E).
Endangered Species Act (ESA) (16 U.S.C. §§ 1531 et seq.)	U.S. Navy, U.S. Fish and Wildlife Service	The EIS and BA analyze potential effects to species listed under the ESA. In accordance with ESA requirements, the Navy would undergo consultation in compliance with Section 7 of the ESA. Consultation was initiated on 28 April 2014. USFWS issued an Informal Consultation Concurrence Letter (FWS-SDG-14B0200-14I0295) on 12 September 2014.
The Sikes Act of 1960 (16 U.S.C. §§ 670a–670o, as amended by the Sikes Act Improvement Act of 1997, Pub. Law No. 105-85)	Department of Defense (DoD)	The Proposed Action alternatives would be implemented in accordance with the management and conservation criteria developed in the Sikes Act Integrated Natural Resources Management Plans for NBC.
National Historic Preservation Act (16 U.S.C. §§ 470 et seq.) including the Archaeological Resources Protection Act	U.S. Navy	The Proposed Action would be implemented in compliance with Section 106 through the *Programmatic Agreement among the Commander Navy Region Southwest, the Advisory Council on Historic Preservation, and the California State Historic Preservation Officer Regarding Navy Region Southwest Undertakings within the San Diego Metropolitan Area, California*, and pursuant to the criteria developed by the Navy for cultural resources management practices. The Navy consulted with SHPO/Tribal Historic Preservation Officer and other appropriate parties, and has notified the Advisory Council on Historic Preservation consistent with 36 C.F.R. § 800.6. Adverse effects would be mitigated through implementation of the MOA dated 25 February 2015 (Appendix E).
National Register of Historic Places (NRHP) (36 C.F.R. § 60)	U.S. Navy	Cultural resources potentially affected by the Proposed Action were evaluated for eligibility for the NRHP pursuant to criteria specified in 36 C.F.R. § 60. These evaluations support Section 106 consultation regarding the effects of the Proposed Action on significant cultural properties as specified in the Navy's programmatic agreement.
Native American Graves Protection and Repatriation Act of 1990 (NAGPRA) Pub. Law 101-601)	U.S. Navy	Consultation required by NAGPRA with the appropriate culturally affiliated Native American tribes are implemented if human remains and objects of cultural patrimony would be encountered during implementation of the Proposed Action.
Executive Order (EO) 12898, Federal Actions to Address	U.S. Navy	Implementation of the Proposed Action alternatives would not result in any

Plans, Policies, and Controls	Responsible Agency	Status of Compliance
Environmental Justice in Minority Populations and Low-Income Populations		disproportionately high and adverse human health or environmental effects on minority or low-income populations.
EO 13045, Protection of Children from Environmental Health Risks and Safety Risks	U.S. Navy	Implementation of the Proposed Action alternatives would not result in disproportionate environmental health or safety risks to children.
EO 13112 Invasive Species	U.S. Navy	EO 13112 requires agencies to identify actions that may affect the status of invasive species and to take measures to avoid introduction and spread of these species. To the extent that invasive species management relates to ESA compliance on Silver Strand Training Complex, the Informal Consultation Concurrence Letter (FWS-SDG-14B0200-14I0295) issued for this action would ensure compliance with EO 13112. This EIS also otherwise satisfies the requirement of EO 13112.
EO 11990 Protection of Wetlands	U.S. Navy	Section 2(b) of EO 11990 requires Federal agency action when there would be a significant impact to wetlands. Implementation of the Proposed Action alternatives would not have a significant impact on wetlands.
Migratory Bird Treaty Act (MBTA) (16 U.S.C. §§ 703–712)	USFWS	EO 13186 requires Federal agencies to develop and implement a Memorandum of Understanding (MOU) with the U.S. Fish and Wildlife Service that shall promote the conservation of migratory bird populations. An MOU was established with DoD in 2006 that describes specific actions to advance migratory bird conservation and avoid take of migratory birds. Impact avoidance and minimization measures incorporated into the EIS are designed to comply with the requirements of the MBTA, the MOU, and EO 13186.
California Environmental Quality Act	Caltrans and City of Imperial Beach	Off-site improvements for utilities and traffic and circulation would require CEQA approval by the lead state agency. Roadway improvements to SR-75 within Caltrans right-of-way would make Caltrans the lead agency and utility improvements within the City of Imperial Beach would make the City the lead agency.

6.2 RELATIONSHIP BETWEEN SHORT-TERM USES AND LONG-TERM PRODUCTIVITY

NEPA requires an analysis of the relationship between a project's short-term impacts on the environment and the effects that these impacts may have on the maintenance and enhancement of the long-term productivity of the affected environment. Impacts that narrow the range of beneficial uses of the environment are of particular concern. The majority of activities addressed in this EIS would be categorized as long term. For example, underground utility improvement activities (construction) would be of short duration, but operation activities would be long term and would, in turn, affect the long-term productivity of environmental resources on-site. The Navy's proposal to increase NSWC support facilities

is an example of the balancing of long-term productivity of the environment with the need to address the shortfall of current facilities to support the growth of NSWC. Addressing such shortfalls through planning and accommodation of future support facilities would allow the Navy to more readily facilitate long-term resources management strategies while achieving the near-term goal of providing the capacity and capabilities to fully support required operational readiness and meet the Title 10 mandate.

6.3 IRREVERSIBLE OR IRRETRIEVABLE COMMITMENT OF RESOURCES

NEPA requires that environmental analysis include identification of "any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented." Irreversible and irretrievable resource commitments are related to the use of nonrenewable resources and the effects that the uses of these resources have on future generations. Irreversible effects primarily result from the use or destruction of a specific resource (e.g., energy or minerals) that cannot be replaced within a reasonable time frame. Irretrievable resource commitments involve the loss in value of an affected resource that cannot be restored as a result of the action (e.g., the disturbance of a cultural site). Construction activities associated with increased support facilities at the NBC Coastal Campus would result in the irretrievable commitment of nonrenewable energy resources, primarily in the form of fossil fuels (including fuel oil), natural gas, and gasoline (for construction equipment). Implementation of the Proposed Action alternatives would require fuels used by ground-based vehicles. Fuel use by ground-based vehicles involved in construction and operational support activities would increase. Therefore, total fuel consumption would increase, and this nonrenewable resource would be considered irreversibly lost.

6.4 ENERGY REQUIREMENTS AND CONSERVATION POTENTIAL

Increased activities as a result of implementation of the NBC Coastal Campus would result in an increase in energy demand over the No Action Alternative. Although the required electricity demands would be met by the existing electrical infrastructure at SSTC-South, NAB Coronado, and NASNI, energy requirements would be subject to established energy conservation practices. The use of energy sources would be minimized through comprehensive sustainable design.

6.5 NATURAL OR DEPLETABLE RESOURCE REQUIREMENTS AND CONSERVATION POTENTIAL

Resources that would be permanently and continually consumed by Proposed Action implementation include water, electricity, natural gas, and fossil fuels. To the extent practical, pollution prevention considerations would be included as part of the Proposed Action. In addition, sustainable range management practices are in place that protect and conserve natural and cultural resources.

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CHAPTER 8.0
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CHAPTER 9.0
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CHAPTER 10.0
PUBLIC COMMENT AND RESPONSE

This chapter contains responses to comments submitted during the public review period on the Draft EIS for the construction and operation of the Coastal Campus at NBC. The official public review period was from July 25, 2014, through September 22, 2014 (60 days). Two public meetings were held at the following locations: the Marina Vista Community Center in Imperial Beach (August 13, 2014) and the Coronado Public Library in Coronado (August 14, 2014). At each meeting location, information poster stations were available from 5 to 8 p.m. on the date of the meeting. At each public meeting, representatives from the DoN were available to answer questions regarding the Proposed Action and alternatives, and the findings of the EIS. The Draft EIS was made available for public review on the project website (http://www.nbccoastalcampuseis.com) and at information repositories located in the cities of Imperial Beach, Coronado, and San Diego. A compact disc of the Draft EIS was also made available upon request.

10.1 ORGANIZATION

This Public Comment and Response section is organized into subsections, as follows:

- Index of Commenters (Table 10-1)
- A consolidated comment-response matrix (Table 10-2)
- Transcripts of the public meetings and photocopies of comments received

Public comments, including written comments, oral comments from the public meetings, and electronic comments, are provided in this section. A list of individuals making comments is provided in Table 10-1. The list of commenters includes the name of the commenter, the identifying document number that has been assigned to it, and the page number in this section on which the photocopy of the document is presented.

Comments received that are similar or that address similar concerns were consolidated to focus on the issues of concern, and a response is provided that addresses the similar comments. Some comments simply state a fact or opinion; for example, “the Draft EIS adequately assesses the potential impacts on [a resource area].” Such comments, although appreciated, do not require a specific response and are not called out herein. The comments and responses are grouped by area of concern, as follows:

1.0 Land Use and Recreation
2.0 Geology and Soils
3.0 Air Quality
4.0 Hazardous Materials and Wastes
5.0 Water Quality and Hydrology
6.0 Noise
7.0 Biological Resources
8.0 Cultural Resources
9.0 Traffic and Circulation
10.0 Socioeconomics and Environmental Justice

11.0 Public Health and Safety
12.0 Utilities and Public Services
13.0 Coastal Uses and Resources
14.0 Aesthetics
15.0 Alternatives
16.0 Cumulative Impacts
17.0 Other Comments

Table 10-1
Index of Commenters

Page	Doc. #	Author	Title/Agency
	1	Cauleen C. Glass	Concerned citizen
	2	Oswaldo Meneses	Associate Transportation Planner Metropolitan Transit System
	3	Jeannette Ford	(no title provided) South Bay Union School District
	4	Zeke Mazur	Concerned citizen
	5	Ruth Cole	Concerned citizen
	6	Patricia McCoy	Concerned citizen
	7	Carrie Jiampa	Concerned citizen
	8	Tom Clark	Public Safety Director/Fire Chief City of Imperial Beach
	9	No name provided	Concerned citizen
	10	No name provided	Concerned citizen
	11	No name provided	Concerned citizen
	12	Dan Orr	Concerned citizen
	13	No name provided	Concerned citizen
	14	Doris Besikof	Concerned citizen
	15	Mike Woiwode	Concerned citizen
	16	Susan Anderson	Concerned citizen
	17	Jason Ashman	Concerned citizen
	18	Shannon and William Davis	Concerned citizens
	19	James W. Royle, Jr.	Chairperson, Environmental Review Committee San Diego County Archaeological Society, Inc.
	20	David L. Toler	Tribal Councilman San Pasqual Band of Diegueno Mission Indians of California
	21	Ed Kravitz	Manager San Diego & Midwestern Railway Partners, LLC.
	22	Steven Robert Merrill	Concerned citizen
	23	Jim Besikof	Concerned citizen
	24	A. Diane Sadlier	Concerned citizen
	25	Linda Williamson	Concerned citizen

Page	Doc. #	Author	Title/Agency
	26	Paul Friedl	Concerned citizen
	27	Samantha Walter	Concerned citizen
	28	James C. Janney	Mayor City of Imperial Beach
	29	Kathleen Martyn Goforth	Manager, Environmental Review Section U.S. Environmental Protection Agency, Region IX
	30	Michael D. Ott	Executive Officer San Diego Local Agency Formation Commission
	31	Jacob Armstrong	Branch Chief, Development Review Branch California Department of Transportation, District 11, Division of Planning
	32	Patricia Sanderson Port	Regional Environmental Officer U.S. Department of the Interior, Office of Environmental Policy and Compliance
	33	Susan Baldwin	Senior Regional Planner SANDAG
	34	No name provided	Office of City Manager City of Coronado
	35	Harlan Mike Durgin, Captain, USN, Retired	President Coronado Cays Homeowners Association
	36	*(Different format but duplicate author and content of document #22)*	*(Duplicate of #22)*
	37	Roger Benham, P.E.	Concerned citizen
	38	Bob Hicks	Concerned citizen
	39	Ed Sorrels	Concerned citizen
	40	Carol (no last name provided)	Concerned citizen
	41	James Knox	Concerned citizen
	42	Dick Pilgrim	Concerned citizen
	43	Mike McCoy	Concerned citizen
	44	Gwendolyn Kesler	Concerned citizen
	45	Doris Besikof	Concerned citizen
	46	David Moore	Concerned citizen
	47	Cauleen C. Glass	Concerned citizen
	48	No name provided	Concerned citizen
	49	*(Different format but duplicate author and content of document #21)*	*(Duplicate of #21)*
	50	Grace Lowenberg	Concerned citizen
	51	James M. Knox	Concerned citizen
	52	Peter Smith	Concerned citizen
	53	Jason H. Giffen	Director, Environmental and Land Use Management Port of San Diego
	54	Donald Phin	Concerned citizen
	55	Carolyn F. Rogerson	Concerned citizen
	56	Mr. and Mrs. Paul E. Grubb	Concerned citizens

Page	Doc. #	Author	Title/Agency
	57	Steven Threlkeld	Concerned citizen
	58	Harry and Elizabeth Butler	Concerned citizens
	59	*(Different format but duplicate author and content of document #32)*	*(Duplicate of #32)*
	60	Clay Phillips	San Diego Coast District Superintendent State of California Natural Resources Agency Department of Parks and Recreation
	61	Christine Hillger	Concerned citizen
	62	Carrie A. Downey	Concerned citizen
	63	Barbara T. Denny, Esq.	Mayor Pro Tem City of Coronado
	64	John Elwell	Concerned citizen
	65	*(Different format but duplicate author and content of document #26)*	*(Duplicate of #26)*
	66	*(Different format but duplicate author and content of document #53)*	*(Duplicate of #53)*
	67	*(Different format but duplicate author and content of document #60)*	*(Duplicate of #60)*
	68	*(Different format but duplicate author and content of document #62)*	*(Duplicate of #62)*

Each comment was assigned a number that corresponds to the numbered Comment Response Matrix (Table 10-2). Within each area, each consolidated comment-response is numbered sequentially. For example, under 11.0 Public Health and Safety, individual comments/responses are numbered 11.1, 11.2, etc. The adjacent column of the Comment Response Matrix contains a set of numbers that refer to the specific comment in the documents received that were combined into that consolidated comment. The numbers of the individual comments are indicated as 3-2, 6-2, 14-1, etc. Comment 3-2, for example, refers to document 3, comment number 2. A reader who wishes to read the specific comment(s) received may turn to the photocopies of the documents included at the end of this section. Thus, the reader may reference back and forth between the consolidated comments/responses and the specific comment documents as they were received.

It should be emphasized that not only have responses to EIS comments been addressed in this comment-response section, as explained, but the text of the EIS was revised, as appropriate, to reflect the concerns expressed in the public comments.

Table 10-2
Comment Response Matrix

No.	Doc. #/ Comment #	Commenter	Comment	Response
			LAND USE AND RECREATION	
1.1	9-1	NNP	Captain Gaiani promised a place to walk our dogs if we stayed off the beach. That lasted about 3 months. He set aside a piece of Navy property near the south gate that was fenced in and had palm trees and fire hydrants. Can you please open that fenced-in area for dog walking again? It would help to keep our dogs off the beach.	The fenced dog walking area is not part of this Proposed Action but this comment has been forwarded on to the NBC Commanding Officer. The Navy owns the oceanside beach down to the mean high tide line and restricts public access to the SSTC-South beach areas above the mean high tide line. Public access to all recreational areas would be maintained and no changes to the direct recreational or adjoining land uses are proposed.
1.2	34-33	City of Coronado	Page 3.1-2 City of Coronado General Plan: The EIS indicates, *"The City's General Plan recognizes that these Federal lands are not under the city's land use jurisdiction, and designates them Military Zone or for environmental habitat preservation*. Comment: While this is an accurate statement, the land use discussion should be augmented to clarify that the land is also located in the Wildlife Preserve (Modifying Overlay) Zone and Scenic Highway (Overlay) Zone of the City's Land Use Plan. The City's standards should be included.	The Final EIS has been revised to include that the project site is located within the Wildlife Preserve Zone and Scenic Highway Zone of the City's Land Use Plan. The City standards, however, do not apply to Federal property.
1.3	34-34	City of Coronado	Specifically, the military facilities and activities on the Naval Communication Station property west of State Scenic Highway 75 are located within the WP-Wildlife Preserve Zone of the City of Coronado. The purpose and intent of the WP Modifying zone regulations *"are to protect and preserve valuable and unique environmental resources for the enjoyment and benefit of present and future generations of Californians. The zone designation is advisory for those areas within the corporate boundaries of the City but not under the zoning jurisdiction of the City of Coronado."* In accordance with Section 86.64.030B, *"The Design Review Commission shall review all proposed structures, signs or facilities within the WP Modifying Zone for conformance with the purpose and intent of this zone and for their visual impacts on views from any public road or water way."*	The Wildlife Preserve purpose, intent, and requirements do not apply to Federal property. Therefore, they are not addressed in this EIS. Applicable federal wildlife requirements, however, are addressed in this EIS.
1.4	34-36	City of Coronado	While the City does not have direct land use controls over the Federal government, as the Navy and other governmental agencies have done in	The Navy will share the Coastal Campus designs with the City of Coronado Design Review Commission

No.	Doc. #/ Comment #	Commenter	Comment	Response
			the past, the new on and off-site facilities along the Silver Strand Highway Corridor should go through the City's local Design Review Commission as an "Advisory" body on the project's design compatibility with the Scenic Highway. **The City requests that the Navy, as a neighboring community part of and within the jurisdiction of Coronado, submit conceptual plans to the Design Review Commission for review and comment.**	once they are finalized.
1.5	34-39	City of Coronado	The boundaries of the Scenic Highway Overlay Zone extend from the edge of the Scenic Highway right-of-way for 200 feet or to the nearest ocean or bay shoreline, whichever is less (Section 86.44.160). Many of the proposed improvements are located within the Scenic Highway Overlay Zone. The proposed development should be consistent with the regulations contained within this zone particularly the following: a. 86.44.090(B) Buildings and structures shall be so designed and located on-site as to create a harmonious relationship with surrounding development and the natural environment. b. 86.44.090(C) Buildings, fences, walls or structures and plant materials shall be constructed, installed or planted so as not to unnecessarily obstruct scenic view visible from the scenic highway, but rather to enhance such scenic views. Fences and walls shall be constructed to allow see-through wherever possible; c. 86.44.090(D) Potentially unsightly features shall be located so as to be inconspicuous from the scenic highway or effectively screened from view by planting and/or fences, walls or grading; d. 86.44.090(E) Insofar as feasible, natural topography, vegetation and scenic features of the site shall be retained and incorporated into the proposed development.	The proposed Coastal Campus property falls within the boundaries of the City of Coronado's Scenic Highway Overlay Zone, but the regulations themselves do not apply to Federal property (i.e., the Federal government property is not subject to local zoning codes/regulations). However, the planning and design of the proposed Coastal Campus involved state-of-the-art expertise to meet the Navy's requirements but also to provide a campus that would fit harmoniously with the surrounding development and the surrounding natural environment. As part of the planning, many of the regulations cited were considered.
1.6	43-8	McCoy, M.	The other thing, and I – it does pertain to this site, and it does pertain to the field and interconnection. We understand the last part of the California Coastal Trail from Oregon to Mexico and Southern California is a	The purpose and need for the proposed Coastal Campus is to (1) provide adequate facilities to support growth of the Naval Special Warfare Center (NSWC) on the west coast and (2) maintain the required levels of

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			difficult area to get through. The Navy has a site that would be perfect to do this on the east side of the fence on this property at Silver Strand. If that could be made available for part of the Coastal Trail to connect to Imperial Beach from Silver Stand State Park to Imperial Beach on the east side of that mesa, the outside of the fence, that would help a lot.	operational readiness of special warfare forces. Providing an interconnection for local and regional trails is not part of this action.
1.7	43-10	McCoy, M.	And also, I want to make sure we continue to work with the Navy to keep dogs on leash on the beach.	Rules for beach access and pet restrictions are posted on the beach. The Navy enforces these rules as necessary on SSTC-South.
1.8	44-1	Kesler, G.	My concern is that, whatever this project will build, does not affect Camp Surf being there.	The proposed Coastal Campus does not propose any construction within Camp Surf and would not permanently affect Camp Surf.
1.9	45-2	Besikof, D.	Also, I've heard today, you might want to do live fire. I think it's totally unhealthy.	The Coastal Campus does not propose any outdoor live-fire activities. Live-fire activities would only occur within the new indoor range.
1.10	60-1	Phillips, C. (CA Parks and Rec)	We remain concerned about the indirect effects from the dramatic change in use and intensity of the site with respect to management of Silver Strand State Beach and the connectivity and conservation of adjacent natural and cultural resources.	As addressed in Section 3.1.2.3, the change in land use would be confined to the construction and operation of training, operation facilities, logistics support, and headquarters facilities only. Proposed facilities would be limited to the project footprint. Proposed facilities would not be incompatible with the physical environment of the site and would include land uses and facilities similar to the existing condition with an intensification of land use. The proposed uses would not adversely affect adjoining, existing land uses within the area either on or off the installation. The Proposed Action would not alter the availability, access to, or functions of nearby recreational areas. New structures would be visible from viewpoints along the Silver Strand State Beach; however, the scale of new structures would be comparable with the vertical profile of existing structures and vegetation and adjacent Imperial Beach urban development. Limited necessary security lighting at night would be visible as a low glow. The Navy prepared a coastal consistency determination for the proposed NBC Coastal Campus and the CCC concurred with the determination on 12 November 2014. The Navy has consulted with the U.S. Fish and Wildlife Service under the Endangered Species Act, and an Informal Consultation Concurrence Letter has

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				been issued with impact avoidance and minimization measures. Measure CR-1 in Section 3.8.4 of the EIS specifies that the Navy will coordinate with State Parks and Caltrans for cultural resources surveys for proposed off-site traffic and access improvements, including on Silver Strand State Beach.
1.11	60-6	Phillips, C. (CA Parks and Rec)	Increased Public Use – CSP is concerned that the increase in people utilizing the complex (an estimated 3,500 per day) will increase public beach use at the southern end of Silver Strand State beach, adjacent to the Dune Natural Preserve. With the increase in beach use originating from the complex there will be increased threat to endangered species as visitors are more likely to enter into the Preserve and WSP breeding habitat.	As addressed in Land Use and Recreation (Section 3.1.2.3) and Cumulative Impacts (Section 4.2.1), the proposed land uses are consistent with long-established military land uses at SSTC-South, NAB Coronado, and NASNI, and therefore would not introduce any land use substantially different from the current land uses. The change in land use would be confined to the construction and operation of training, operation facilities, logistics support, and headquarters facilities only. Proposed facilities would be limited to the project footprint. The proposed uses would not adversely affect adjoining, existing land uses within the area either on or off the installation. The Proposed Action would not alter the availability, access to, or functions of nearby beach or recreational areas. There is no planned organizational use of Silver Strand State Beach and beach access as described in Section 2.5.2 is not part of the Proposed Action. The Navy has consulted with the U.S. Fish and Wildlife Service under the Endangered Species Act, and an Informal Consultation Concurrence Letter has been issued with impact avoidance and minimization measures. At its closest point, the proposed Coastal Campus development footprint would be located approximately 110 feet from the southern end of Silver Strand State Beach, and the closest point of development, other than the entry control point and supporting roadway improvements, will be approximately 950 feet away from the southern end of Silver Strand State Beach. On 12 November, the California Coastal Commission concurred with the Navy's coastal consistency determination.
1.12	60-12	Phillips, C. (CA Parks and Rec)	Through the strategic use of building layout, pedestrian circulation routes and fencing (as well as limiting ocean views of Complex pedestrians, develop a site design for the Complex that restricts the number of beach access points to one location, at the	The Coastal Campus does not propose any changes to beach access points.

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			southern (more urban) end of the beach.	
1.13	60-17	Phillips, C. (CA Parks and Rec)	Prohibit vehicular activity on the beach in front of the State Park.	The Coastal Campus does not propose any changes to vehicular use on the beach.
			GEOLOGY AND SOILS	
			(No comments received)	
			AIR QUALITY	
3.1	29-7	Goforth, K. M. (USEPA)	*Recommendation:* Clarify, in the FEIS, whether the conclusions regarding CO impacts considered the traffic analysis results in the Traffic and Circulation chapter.	The recommended clarification has been made in Section 3.3 of the EIS.
3.2	29-8	Goforth, K. M. (USEPA)	Because the project site is located in a nonattainment area for 8-hour ozone (marginal), we recommend consideration of the following additional mitigation measures for the construction phase: • Limit idling of heavy equipment to less than 5 minutes and verify through unscheduled inspections (Note: CARB has a number of mobile source anti-idling requirements, see their website at: http://www.arb.ca.gov/msprog/truck-idling/truck-idling.htm); • Maintain and tune engines per manufacturer's specifications to perform at CARB and/or EPA certification levels, prevent tampering, and conduct unscheduled inspections to ensure these measures are followed; • If practical, lease new, clean equipment meeting the most stringent of applicable Federal or State Standards. In general, commit to the best available emissions control technology. Tier 4 engines should be used for project construction equipment to the maximum extent feasible; • Lacking availability of non-road construction equipment that meets Tier 4 engine standards, the responsible agency should commit to using CARB and EPA-verified particulate traps, oxidation catalysts and other appropriate controls where suitable to reduce emissions of diesel particulate matter and other pollutants at the construction site; and Consider alternative fuels such as	The suggested measures have been added to Sections 3.3 and 5.3.

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			natural gas and electricity (plug-in or battery).	
3.3	43-6	McCoy, M.	The air quality will become an issue.	Air quality is analyzed in Section 3.3 of the EIS and it has been determined that the NEPA impact of the Proposed Action on air quality would not be significant under all alternatives.
			HAZARDOUS MATERIALS AND WASTE	
4.1	29-9	Goforth, K. M. (USEPA)	*Recommendation:* We recommend that the analysis in the FEIS describe how project construction would interface with, or affect, ongoing remedial actions and whether the project would affect cleanup schedules.	There are no planned remedial actions or cleanup for IR Sites 10 and 11. These sites have been closed with No Further Action required.
			WATER QUALITY AND HYDROLOGY	
5.1	28-24	Janney, J. (City of IB)	The runoff, surface or subsurface, from this development into the detention pond will only make the ponding in the City streets more severe and of a longer duration. Flooding of the adjacent residences at Carnation Avenue and Seacoast Drive is a concern. The City requests, therefore, that the Navy consider alternatives to mitigate this existing flooding condition that will likely be exacerbated with construction of the proposed Coastal Campus.	The proposed runoff from the Coastal Campus would not be directed to the Camp Surf detention pond. As described in Section 3.12.2.3, the drainage design of the Proposed Action would maintain the existing runoff patterns to the maximum extent practical, retain all of the runoff on-site, and provide infiltration opportunities for all of the runoff that falls on impervious areas.
5.2	29-2	Goforth, K. M. (USEPA)	The impact analysis criteria include evaluating the potential for the site to result in substantial flooding or ponding of surface runoff, but the DEIS does not evaluate this factor, nor does it evaluate whether there would be a substantial increase in impervious surfaces and associated increased runoff, another impact assessment criterion (p. 3.5-10). It states only that the proposed action would increase impervious surfaces and associated runoff compared to existing conditions, without indicating how much of the 177 acre site will become impervious. The DEIS states that low impact development (LID) features will be installed and, therefore, impacts will not be significant; but it does not evaluate their use or function in this project setting (poor drainage, high water table, etc.).	The EIS has been updated to include calculation of pervious and impervious surfaces within the Coastal Campus. The Coastal Campus Proposed Action is still at the conceptual level in terms of building siting and does not yet include specific building and feature designs. Specific LID features will be evaluated and designed based on functional considerations related to potential placements within the overall site when more detailed site planning occurs. The Navy is committed to effective use of LID features.
5.3	31-5	Armstrong, J. (Caltrans)	Storm Water Compliance: For the Caltrans encroachment permit and project elements within the State Highway System, the project shall	The proposed Coastal Campus would comply with all applicable Federal, state, and local storm water compliance requirements. All construction

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			demonstrate compliance with applicable water quality regulations. This includes consistency with the following State Water Resources Control Board, National Pollutant Discharge Elimination System (NPDES) permits: • Local MS4 permit regulations (Small Municipal Separate Storm Sewer Systems) • Caltrans NPDES Permit 2012-011-DWQ (CAS 000003) Construction General Permit 2009-0009-DWQ (CAS 000002)	contractors for the proposed military projects must and would obtain the Construction General Permit prior to start of construction and would comply with all construction and postconstruction requirement of the permit, including stormwater best management practices and low impact development features.
5.4	60-8	Phillips, C. (CA Parks and Rec)	Maintain strict low impact development (LID) designs that reduce water use and capture imported water or allow the water to infiltrate within soils evenly throughout the developed areas.	The Coastal Campus would integrate LID designs as described in measure W-2 in Section 5.5 of the EIS.
			NOISE	
6.1	4-1	Mazur, Z.	I don't like the current machine gun sounds, and the hovering helicopters.	The Coastal Campus does not propose any outdoor shooting ranges and does not propose any changes to existing or planned aircraft operations. The existing outdoor training conducted at SSTC-South will remain in accordance with the Silver Strand Training Complex EIS (U.S. Navy 2011b). This training includes weapons blank fire and use of helicopters to support the training.
6.2	22-1	Merrill, R.	The noise from the helicopters is over the top. This morning, 8/21/14, at 1:00 am-1:45 am, the neighborhood close the proposed base was harassed by touch-and-goes at the proposed site. The helicopter was so low that it shook the windows and the house.	The Coastal Campus does not propose any changes to existing or planned aircraft operations. Helicopter operations were previously addressed in the Helicopter Wings Realignment and MH-60R/S Helicopter Transition Environmental Assessment (U.S. Navy 2011a) and the Silver Strand Training Complex EIS (U.S. Navy 2011b). A Noise Complaint can be filed with the NBC Public Affairs Office. The sooner the noise complaint is submitted; the faster the Navy can investigate and take appropriate action. The website address to file noise complaints is as follows: https://auth.cnic.navy.mil/coronado. The noise complaint hotline number is (619) 545-8233, as listed on the home page of the NBC website at: http://www.cnic.navy.mil/regions/cnrsw/installations/navbase_coronado/om/air_operations/flight_operations.html. In addition, a noise complaint form is available on the NBC website at: http://www.cnic.navy.mil/regions/cnrsw/i

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				nstallations/navbase_coronado/om/NoiseComplaintForm.html.
6.3	34-48	City of Coronado	ES-32 Noise: Alternative 1 Under Impacts states *"the City of Coronado's noise limit and the City of Imperial Beach's restrictions on construction noise are limited to 7 am to 10 pm."* Although the EIS covers Coronado's noise restrictions, this section should detail the City of Coronado's restriction on construction noise, limited to 7 am to 7 pm (Municipal Code Chapter 41.14.020).	The Navy intends to typically confine construction activity to 7 a.m. to 7 p.m. Construction outside of these hours would be avoided to the extent practical.
6.4	34-49	City of Coronado	Comment: The measurements indicate the sound levels exceeded the standards contained with the Noise Element. In addition, the City's Noise Ordinance indicates the maximum one-hour average sound level permitted is 50 decibels. It appears current operations are exceeding the City's standards and acceptable noise limits for residential development, such as the Coronado Cays nearby; therefore, it is unclear how increased activities/operations, etc. will not result in additional noise and impacts to the area. Additionally, is 2002 the correct year when the noise measurements were taken or is this a typo? What is the correct year? If it is supposed to be 2002, then the noise analysis is flawed and the City requests revised noise measurements to be taken since over 10 years has elapsed and activity and tempo levels have changed. If there is a typo, and the correct date the measurements were taken is April 2012, the City asserts that the noise analysis is still flawed. The Record of Decision for the SSTC EIS was issued August 27, 2012. It is presumed the increased activities, training exercises, tempos and helicopter operations identified in the EIS were not implemented/authorized until at least this time; therefore, the Noise measurements were taken prematurely and do not take into account or reflect the increased noise associated with the significantly increased activity levels planned and authorized under the SSTC EIS.	Text has been revised in the EIS to clarify this discussion. Previous noise measurements and estimations at nearby sensitive receptors provide general ambient noise levels from training exercises and vehicle traffic on SR-75. The noise measurements identified in this EIS were taken in 2002 for the Silver Strand Training Complex EIS (US Navy 2011c). They are mentioned in the Coastal Campus EIS as available noise data to describe the range of ambient noise conditions at the nearest residences to the Proposed Action (Coronado Cays and Imperial Beach) during short-term beach and helicopter exercises, which are not a part of the proposed Coastal Campus. Also from the earlier document (US Navy 2011c) traffic noise from SR 75 was estimated using 2008 traffic volumes. No new ambient noise measurements were taken for the proposed project, as the proposed project consists of the construction and operation of new campus buildings on-site. The operational noise of the Proposed Action would not generate noise levels that would result in a perceptible change in noise in proximity to off-site noise-sensitive receptors.
6.5	34-50	City of Coronado	The Noise Study should include measurements taken during simulated training exercises both during the day and nighttime reflecting the anticipated activities of both land and	The noise impacts from training activities were assessed in the Silver Strand Training Complex EIS (U.S. Navy 2011b, including types of activities, tempos, volumes of

No.	Doc. #/ Comment #	Commenter	Comment	Response
			air (helicopter) operations. The noise study should identify the types of activities, tempos, volumes of personnel, and helicopter activity assumptions, which generated the simulated and associated noise measurement results.	personnel, and helicopter activity. The NBC Coastal Campus EIS does not propose changes to training activities and assesses only noise impacts associated with the new facilities. The current tempo of training is now close to but below the tempos and helicopter activity as described in the Silver Strand Training Complex EIS.
6.6	34-51	City of Coronado	Page ES-32: The City disagrees with the analysis leading to the conclusion, which states *"activities would add to the noise levels of the existing activities on SSTC-South and the area's ambient noise levels, which are 'characteristic of the urban and transportation activities' (port and aviation) of the area."* This area of the Silver Strand, in particular, NRRF, has had fairly minimal activity levels. With the resent SSTC EIS activating the beach area as the Silver Strand Training South Complex, the number of personnel, volume and types of activities, tempos, and helicopter operations will be increasing significantly adding increased noise to the area. The addition of permanent structures to this area to support a permanent on-site training operations at the site, along with general base activities, will contribute to additional noise levels. It is not known the degree of implementation that has occurred or will occur until many of the support facilities/infrastructure are in place at the Campus. The statement that the uses are "existing" for purposes of the noise analysis and the impacts that the past EIS project and proposed EIS project will have on the area is misleading, when it is not known whether analysis has occurred at the peak of general base training/operations. The City is concerned with the increased noise associated with both the activities described in the SSTC EIS and the facilities (new base) to support those activities described in the Campus EIS. The previous EIS analyzed periodic training activities, and the current EIS should analyze the long-term noise impacts associated with permanent operations of all activities and training occurring at this location due to the permanent infrastructure being constructed to support the	As stated, "the demolition of existing structures, and construction and operation of new structures, would add to the existing activities on Silver Strand Training Complex (SSTC) South (i.e., training ops) and the area's ambient noise levels (traffic on SR-75), which are characteristic of the urban and transportation activities (port and aviation) of the area (i.e., regional area)." The Navy intends to typically confine construction activity to 7 a.m. to 7 p.m. Construction outside of these hours would be avoided to the extent practical. The Coastal Campus EIS does not propose any outdoor combat training exercises and does not propose any changes to existing or planned aircraft operations. The EIS addresses the construction and operation of proposed buildings and associated infrastructure.

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			ongoing uses within this sub-base.	
6.7	34-52	City of Coronado	The EIS quote above mentions aviation activities. The AICUZ recently developed for NASNI and NOLF did not address any type of helicopter activities within the Coastal Campus area. Why was this activity (that may impact nearby development with items such as noise attenuation requirements) not addressed in the AICUZ? Page 3.14-10 states *"the SSTC-South existing operations include administrative and training facilities that include helicopter activity as part of their existing training and operations; this condition would not be affected under this action. For this reason, visibility and presence of helicopters are considered existing conditions and are not discussed, and effects are not analyzed in this EIS."* City has the same comment above as to whether the helicopter conditions are "existing" or whether still in planning/to be implemented phase.	The Coastal Campus is not a military airfield; therefore, it is not subject to the AICUZ process and is not included in the NASNI or NOLF AICUZ. However, for comparison, using the established criteria for a Visual Flight Rule (VFR) landing pad located at an air installation as a reference for the existing helicopter pad at SSTC-South, neither the Clear Zone nor the Accident Potential Zone-I would extend beyond the fence line of the proposed Coastal Campus. Therefore, no land use controls are required outside the Coastal Campus fence line. The helicopter noise conditions are existing. The Coastal Campus does not propose any changes to either the existing helicopter landing area or aircraft operations. Helicopter operations were previously addressed in the Helicopter Wings Realignment and MH-60R/S Helicopter Transition Environmental Assessment (U.S. Navy 2011a) and the Silver Strand Training Complex EIS (U.S. Navy 2011b).
6.8	34-54	City of Coronado	Page 3.6-11 indicates *"Operational noise would be generated throughout the day and to a lesser degree into the evening and weekends."* Comment: The EIS Analysis recognizes there will be increased noise with construction; however, the City is also concerned with long term impacts. **The City requests the nighttime air and combat (noise producing) activities of NBC be reduced during the hours from 7:00 p.m. to 7:00 a.m. in compliance with the City's noise regulations.**	The noise impacts from training activities were assessed in the Silver Strand Training Complex EIS (U.S. Navy 2011b, including types of activities, tempos, volumes of personnel, and helicopter activity. The NBC Coastal Campus EIS does not propose changes to training activities and assesses only noise impacts associated with the new facilities.
6.9	34-55	City of Coronado	The document does not adequately address the increase in noise at this site associated with the gradual expansion of uses and activities that has occurred within the last 3 years, and which is planned for the next 25. **The City requests noise monitoring at sensitive noise receptor sites such as the southern and northern perimeters (near Southern Coronado Cays) of the boundaries of the Campus along with noise monitoring reports to the City.** If Noise levels exceed allowable standards, then the Navy should modify their activities to reach standards to minimize impacts. The	Changes in noise levels in recent years are not related to the proposed Coastal Campus, nor are previously planned and environmentally reviewed activities, although both are part of the cumulative impacts analysis. Noise generated by training at SSCT-South was addressed in the Silver Strand Training Complex EIS. The Navy will continue to work with the City to minimize nighttime noise disturbance.

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			Navy must commit to limiting exercise activities, activities, release of arsenals, guns, etc. to comply with the City's Noise ordinance with little night time activity.	
6.10	34-56	City of Coronado	**The City also requests that construction activity occur Monday through Saturday 7:00 a.m. to 7:00 p.m. in conformance with the City's Noise Ordinance for construction activity.**	The Navy intends to typically confine construction activity to 7 a.m. to 7 p.m. Construction outside of these hours would be avoided to the extent practical.
6.11	43-9	McCoy, M.	One other thing I'm going to mention – and I don't think you have control over it in this – but it's the flights that are made by the Navy, across our city, with these jets. The decibel level is intolerable. It's unfair to the community. And I think something should be done about the flight patterns, or the – I don't know what you call it – the attitude of the pilots. When they overfly these areas, it seems they ought to back off rather than rev up. But I think these overflights – either the flight pattern should be changed, or the attitude of the pilots should be dealt with so that the public doesn't have to put up with it. I'd like to see that. The community does not appreciate that decibel level going near homes.	The Coastal Campus does not propose any changes to existing or planned aircraft operations. Helicopter operations were previously addressed in the Helicopter Wings Realignment and MH-60R/S Helicopter Transition Environmental Assessment (U.S. Navy 2011a) and the Silver Strand Training Complex EIS (U.S. Navy 2011b). A Noise Complaint can be filed with the NBC Public Affairs Office. The sooner the noise complaint is submitted; the faster the Navy can investigate and take appropriate action. The website address to file noise complaints is as follows: https://auth.cnic.navy.mil/coronado The noise complaint hotline number is (619) 545-8233, as listed on the home page of the NBC website at: http://www.cnic.navy.mil/regions/cnrsw/installations/navbase_coronado/om/air_operations/flight_operations.html In addition, a noise complaint form is available on the NBC website at: http://www.cnic.navy.mil/regions/cnrsw/installations/navbase_coronado/om/NoiseComplaintForm.html
6.12	45-3	Besikof, D.	In the June meeting – I believe it was 2012 – I came and at that time, I spoke with someone in command who did acknowledge to me that I was right. The flights over our neighborhood were occurring even though they were not expected to happen, and they were not allowed. His words were – I think, was "drifted." This afternoon I was trying to compose my thoughts and write you a letter, and I had the computer on. The plane went over. I lost my e-mail. We are already impacted by the Navy. If you do this proposed expansion, I believe it will profoundly affect our whole lives and our whole	The Coastal Campus does not propose any changes to existing or planned aircraft operations. Helicopter operations were previously addressed in the Helicopter Wings Realignment and MH-60R/S Helicopter Transition Environmental Assessment (U.S. Navy 2011a) and the Silver Strand Training Complex EIS (U.S. Navy 2011b). A Noise Complaint can be filed with the NBC Public Affairs Office. The sooner the noise complaint is submitted; the faster the Navy can investigate and take appropriate action. The website address to file noise complaints is as follows:

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			neighborhood.	https://auth.cnic.navy.mil/coronado. The noise complaint hotline number is (619) 545-8233, as listed on the home page of the NBC website at: http://www.cnic.navy.mil/regions/cnrsw/installations/navbase_coronado/om/air_operations/flight_operations.html. In addition, a noise complaint form is available on the NBC website at: http://www.cnic.navy.mil/regions/cnrsw/installations/navbase_coronado/om/NoiseComplaintForm.html.
6.13	54-1	Phin, D.	We live in the Coronado Cays. I am greatly concerned about the impact that the base expansion will have on our quality of life. Noise pollution is only one of the concerns, others have been expressed as well. I am most concerned about additional helicopter flights and combat simulations. Both are already a real noise concern. I am a supporter of our military. Most folks in Coronado are. But this is simply too much.	The noise impacts from training activities were assessed in the Silver Strand Training Complex EIS (U.S. Navy 2011b, including types of activities, tempos, volumes of personnel, and helicopter activity. The NBC Coastal Campus EIS does not propose changes to training activities and assesses only noise impacts associated with the new facilities. The current tempo of training is now close to but below the tempos and helicopter activity as described in the Silver Strand Training Complex EIS.
6.14	55-4	Rogerson, C.	The noise from activity, weapons and ordnance used in simulated battle training is especially jarring and disruptive to daily life in the Coronado Cays. The noise from this training needs to be kept to a minimum, or eliminated all together by moving these activities to other larger coastal Navy locations farther North.	The Coastal Campus does not propose any outdoor combat training.
6.15	60-5	Phillips, C. (CA Parks and Rec)	Additionally, the 485 foot approach lane, traffic signal and new entrance road will greatly change the flow of traffic along the south eastern edge of the Preserve. The DEIR suggests that the slowing of traffic in this area will decrease the noise generated from the current traffic flow. CSP is concerned that the acceleration and deceleration from the changes may increase the noise and that the greater number and increased duration of vehicles idling while waiting to enter the Complex may increase noise and pollutants within closer proximity to the Preserve.	As discussed in Section 3.9, Traffic and Circulation, the proposed northern entry control point would operate at an acceptable level of service (LOS) (LOS D or greater—free flowing, not a congested intersection). Noise levels increase with traffic speed. Local carbon monoxide (CO) concentrations of concern are associated with LOS E or F intersections, and no human receptors are in proximity to the intersection to be affected by local CO. Any potential for impacts from noise on sensitive wildlife are addressed in Section 3.7, Biological Resources.
6.16	55-1	Rogerson, C.	I am against helicopter activity at the proposed new Coastal Camps. There is a great difference in the 2 to 3 seconds of increased sound it takes for a F-18 or similar aircraft to pass over the Coronado Cays than the several minutes of noise a helicopter,	The Coastal Campus does not propose any changes to existing or planned aircraft operations. Helicopter operations were previously addressed in the Helicopter Wings Realignment and MH-60R/S Helicopter Transition Environmental Assessment (U.S. Navy

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			or two flying together as they frequently do, creates as it passes. There have been several instances of low flying helicopters flying south to north over the bay that have been very disturbing. The noise reverberates down the Channels and rattles windows for 2 to 4 minutes. Repeated passes are very disturbing. There is also increased dirt pollution from exhaust.	2011a) and the Silver Strand Training Complex EIS (U.S. Navy 2011b). A Noise Complaint can be filed with the NBC Public Affairs Office. The sooner the noise complaint is submitted; the faster the Navy can investigate and take appropriate action. The website address to file noise complaints is as follows: https://auth.cnic.navy.mil/coronado. The noise complaint hotline number is (619) 545-8233, as listed on the home page of the NBC website at: http://www.cnic.navy.mil/regions/cnrsw/installations/navbase_coronado/om/air_operations/flight_operations.html. In addition, a noise complaint form is available on the NBC website at: http://www.cnic.navy.mil/regions/cnrsw/installations/navbase_coronado/om/NoiseComplaintForm.html.
6.17	62-11	Downey, C.	Third, the Navy should provide an easily located email address to file noise complaints from operations or Navy traffic on the NBC website and other locations. Currently the noise complaint phone number is easy to locate but after a thorough review of the NBC website, there is no easily identified email address to file a complaint. Many residents feel Naval airplanes are flying out side of normal flight patterns and are coming closer to their homes than is allowed. An email reporting ability would allow the Navy to confirm the date and time of the alleged flight or vehicle and determine the cause of louder than normal operation. Whether the cause is low cloud cover amplifying the engine noise or actual violation of NBC flight rules, email reporting and Navy written response about the result of the noise complaint investigation would allow the public to view the responsiveness of the Navy. Transparency in investigating allegations of wrongdoing builds confidence in the public that the Navy is operating per their own instructions.	The website address to file noise complaints is as follows: https://auth.cnic.navy.mil/coronado. The noise complaint hotline number is (619) 545-8233, as listed on the home page of the NBC website at: http://www.cnic.navy.mil/regions/cnrsw/installations/navbase_coronado/om/air_operations/flight_operations.html. In addition, a noise complaint form is available on the NBC website at: http://www.cnic.navy.mil/regions/cnrsw/installations/navbase_coronado/om/NoiseComplaintForm.html.
6.18	1-2	Glass, C.	Traffic and construction noise as well as the enhanced lighting will have a great and increasing impact particularly on the well-established neighborhoods of the Coronado Cays. These impacts will not only decrease	Traffic noise on SR-75 would not increase to a level perceptible to human hearing due to the existing NBC traffic volumes redistributed to access the proposed Coastal Campus. SR-75 traffic noise occurs adjacent to the

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			the residents' ability to enjoy outdoor activities, but will affect the attractiveness of the Cays as a place to live and can be expected to devalue the homes in the Cays accordingly. The noise from increased helicopter traffic alone is of vital concern. The fleeting noise of several jets is one thing, the prolonged, alternating noise of helicopters is quite another.	Cays and is the primary noise source for ambient levels, and Coastal Campus construction would be located across SR-75, much farther away from the Cays. Lighting impacts are discussed under Section 3.14, Aesthetics. Regarding aviation noise, see response 6.2 (22-1). The Coastal Campus does not propose any changes to existing or planned aircraft operations. Helicopter operations were previously addressed in the Helicopter Wings Realignment and MH-60R/S Helicopter Transition Environmental Assessment (U.S. Navy 2011a) and the Silver Strand Training Complex EIS (U.S. Navy 2011b).
6.19	1-3	Glass, C.	So far only minimal mention of any noise or light abatement provisions have been made in the current EIS and mostly to say that the disturbance would be minor and unavoidable. How can this be true? Living conditions in the Cays will be forever changed, detrimentally so, by the development plans for the Coastal Complex.	The Coastal Campus would generate short-term construction noise. Operational noise of the constructed facilities would be related to HVAC and similar systems and existing NBC traffic accessing the site. The Coastal Campus project does not propose any outdoor combat training exercises and does not propose any changes to existing or planned aircraft operations. Safety lighting in conjunction with facilities and parking areas would increase the nighttime ambient lighting of the site and would become a noticeable change in visual conditions. Permanent outdoor lighting would be downward shielded to maximally reduce light pollution into adjacent sites, SR-75, residential communities, and conservation areas. Other methods of reducing light pollution (e.g., dusk-to-dawn sensor activation, low-lumen or limited-spectrum lighting) would be applied wherever possible. Light poles and light placement would be constructed at the lowest height possible (considering security constraints) to reduce effects to the surrounding areas and to reduce light trespass.
			BIOLOGICAL RESOURCES	
7.1	6-3	McCoy, P.	Build as little as possible. Plan with the site in mind—an incredible irreplaceable resource and it needs real care and thought with endangered species in mind.	Impacts to federally listed species have been avoided or minimized to the extent practicable. The Navy has consulted with the U.S. Fish and Wildlife Service under the Endangered Species Act, and an Informal Consultation Concurrence Letter has been issued with impact avoidance and minimization measures for sensitive biological species. NBC takes

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				environmental stewardship very seriously and has comprehensive, large-scale management programs to protect and conserve the Western Snowy Plover, California Least Tern, San Clemente Loggerhead Shrike, and San Clemente Sage Sparrow. NBC has a comprehensive conservation program, which includes two INRMPs (NBC and San Clemente Island) developed to manage NBC's complex natural resources. There has been a least tern management program on NBC since 1977 when 13 nests were found on NASNI. Due to these management efforts, NBC supported 1,034 least tern nests in 2013. When the snowy plover was federally listed as endangered in 1993, NBC supported 19 plover nests. In 2013 there were 130 nests found on NBC.
7.2	6-6	McCoy, P.	Be sure to take water line path out of Draft EIS where it encroaches on vernal pools and nesting sites (check maps).	The Navy has decided to eliminate the water line replacement option that extended south and followed the curve of the former Wullenweber Antenna Array. This decision resulted in eliminating any impacts to vernal pools. Further, impacts to federally listed species have been avoided or minimized to the extent practicable. The Navy has consulted with the U.S. Fish and Wildlife Service under the Endangered Species Act, and an Informal Consultation Concurrence Letter has been issued with impact avoidance and minimization measures for sensitive biological species.
7.3	6-7	McCoy, P.	Non-reflective glass on buildings—no shine or glitter. Lights should be shielded from creating light pollution.	The proposed buildings would incorporate bird-friendly designs to reduce and prevent birds from colliding with buildings as is identified in Section 5.7.3.2 of the EIS. Bird-friendly design features include transparent passageways, corners, atria, or courtyards so that birds do not get trapped; appropriately shielded outside lighting directed away from native habitats to minimize attraction to light-migrating songbirds; interior lighting that is turned off at night or designed to minimize light escaping through windows; and landscaping designed to keep birds away from the building's façade. Use of nonreflective or opaque glass; external shades (or other devices to reduce glare, transparency, or reflectiveness) on windows; ultraviolet patterned glass; angled glass; and/or louvers can also aid in reducing bird

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				collisions.
7.4	18-1	Davis, S. & W.	We are concerned that there may be impacts to endangered species at the south Naval radio receiving facility (Wullenweber Antenna Array) location SSTC. Should the proposed Coastal Campus project be approved, in particular the federally listed endangered San Diego fairy shrimp, the California least tern, the western snowy plover, and light-footed clapper rail and the Pacific pocket mouse.	Impacts to federally listed species have been avoided or minimized to the extent practicable. The Navy has consulted with the U.S. Fish and Wildlife Service under the Endangered Species Act, and an Informal Consultation Concurrence Letter has been issued with impact avoidance and minimization measures for sensitive biological species. Demolition of the majority and preservation of a portion of the Wullenweber Antenna Array are not part of the Proposed Action. It has undergone a separate environmental review and will be complete before the proposed Coastal Campus is constructed.
7.5	18-2	Davis, S. & W.	We also believe there is cause for concern for federally listed plant species, salt marsh birds beak, and coastal dune milk vetch that may be impacted. There is another sensitive species as well, the grasshopper sparrow.	Impacts to federally listed species have been avoided or minimized to the extent practicable. The Navy has consulted with the U.S. Fish and Wildlife Service under the Endangered Species Act, and an Informal Consultation Concurrence Letter has been issued with impact avoidance and minimization measures for sensitive biological species. Further, the Navy completed project-specific avian surveys and assessed impacts to migratory birds in the EIS (Section 3.7.10). Avoidance, minimization, and compensation measures are provided for migratory birds under Section 5.7. The Navy is not required to specifically address sensitive species without Federal status, such as the Grasshopper Sparrow, beyond the context of migratory birds.
7.6	18-3	Davis, S. & W.	The other concerns are the one hundred and fifty-four bird species that may forage, fly over and possibly nest because of SSTC's co-location to the U.S. Fish and Wildlife refuge in the area.	Impacts to federally listed species have been avoided or minimized to the extent practicable. The Navy has consulted with the U.S. Fish and Wildlife Service under the Endangered Species Act, and an Informal Consultation Concurrence Letter has been issued with impact avoidance and minimization measures for sensitive biological species. Further, the Navy completed project-specific avian surveys and assessed impacts to migratory birds in the EIS (Section 3.7.10). Avoidance, minimization, and compensation measures are provided for migratory birds under Section 5.7. NBC takes

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				environmental stewardship very seriously and has comprehensive, large-scale management programs to protect and conserve the Western Snowy Plover, California Least Tern, San Clemente Loggerhead Shrike, and San Clemente Sage Sparrow. NBC has a comprehensive conservation program, which includes two INRMPs (NBC and San Clemente Island) developed to manage NBC's complex natural resources. There has been a least tern management program on NBC since 1977 when 13 nests were found on NASNI. Due to these management efforts, NBC supported 1,034 least tern nests in 2013. When the snowy plover was federally listed as endangered in 1993, NBC supported 19 plover nests. In 2013 there were 130 nests found on NBC.
7.7	18-4	Davis, S. & W.	Now with this new proposal we would still like the vernal pools to be fenced to keep the future 3,500 personnel out of the breeding grounds.	Fencing vernal pools is not mission-compatible (i.e., potentially conflicts with existing or planned activities that are not a part of the Coastal Campus Proposed Action). Impacts to federally listed fairy shrimp species have been avoided and minimized to the extent practicable. The Navy has consulted with the U.S. Fish and Wildlife Service under the Endangered Species Act, and an Informal Consultation Concurrence Letter has been issued with impact avoidance and minimization measures for sensitive biological species.
7.8	18-5	Davis, S. & W.	Additionally, we are concerned that there are cumulative impacts from the grading and construction of the proposed development. A water pipe with a 30-foot right-of-way for the California American water company is on the edge of the largest vernal pool (Figure 2-2 on page 2-12 and Figure 2-4 on the next page) which is up against the fence of the Wullenweber Antenna Array.	The Navy has decided to eliminate the water line replacement option that extended south and followed the curve of the former Wullenweber Antenna Array. This decision resulted in eliminating any impacts to vernal pools. Further, impacts to federally listed species have been avoided or minimized to the extent practicable. The Navy has consulted with the U.S. Fish and Wildlife Service under the Endangered Species Act, and an Informal Consultation Concurrence Letter has been issued with impact avoidance and minimization measures for sensitive biological species.
7.9	18-6	Davis, S. & W.	The EIS shows that water line on the east side of the antenna array and our concern is the distance from the new water line and the vernal pool. There is supposed to be a fifty-foot buffer around all of the vernal pools. The new water line trench should be at	The Navy has decided to eliminate the water line replacement option that extended south and followed the curve of the former Wullenweber Antenna Array. This decision resulted in eliminating any impacts to vernal pools.

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			least fifty feet from all vernal pools.	Further, impacts to federally listed species have been avoided or minimized to the extent practicable. The Navy has consulted with the U.S. Fish and Wildlife Service under the Endangered Species Act, and an Informal Consultation Concurrence Letter has been issued with impact avoidance and minimization measures for sensitive biological species.
7.10	18-7	Davis, S. & W.	The demolition of the array and where that debris lands, is of concern. The tall fencing should be downed inwardly as the radio-receiving facility is demolished, because it is so tall, obviously, the fence should not be downed outwardly and drop Into the vernal pool.	Demolition of the majority and preservation of a portion of the Wullenweber Antenna Array are not part of the Proposed Action. It has undergone a separate environmental review and will be complete before the proposed Coastal Campus is constructed.
7.11	18-8	Davis, S. & W.	U.S. Fish and Wildlife needs to walk and identify any endangered plant or animal species which are currently inside the perimeter of the array before demolition. The array should be dismantled prior to the water line or other utilities being put underground. It is just too close to the sanctuary. Perhaps afterwards, then the water line can be moved west in a straight line, not with a half circle on the east side.	Demolition of the majority and preservation of a portion of the Wullenweber Antenna Array are not part of the Proposed Action. It has undergone a separate environmental review and will be complete before the proposed Coastal Campus would be constructed, including the water line and other utilities being put underground. The Navy has decided to eliminate the water line replacement option that extended south and followed the curve of the former Wullenweber Antenna Array. This decision resulted in eliminating any impacts to vernal pools.
7.12	18-9	Davis, S. & W.	It might be wise during construction that U.S. Fish and Wildlife representatives are on site to make sure, there is no disruption of runoff erosion, or airborne pollution, dust or chemicals, harming protected areas. There is no way to compensate the loss on vernal pools. There are no more vernal pool lands out there with fairy shrimp, for purchase, with which to mitigate.	Impacts to federally listed species have been avoided or minimized to the extent practicable. The Navy has consulted with the U.S. Fish and Wildlife Service under the Endangered Species Act, and an Informal Consultation Concurrence Letter has been issued with impact avoidance and minimization measures for sensitive biological species.
7.13	18-10	Davis, S. & W.	On the bluff, where the campus building is proposed, gravity will be a big factor on downhill-flow. Sedimentation, silt, erosion will be of concern not only to vernal pool areas, but also on the nesting habitat areas of endangered birds to the north. Consider no demolition, construction, grading, heavy traffic, or road building during those periods of nesting.	Impacts to federally listed species have been avoided or minimized to the extent practicable. The Navy has consulted with the U.S. Fish and Wildlife Service under the Endangered Species Act, and an Informal Consultation Concurrence Letter has been issued with impact avoidance and minimization measures for sensitive biological species. Further, avoidance, minimization, and compensation measures for sensitive biological

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				resources are outlined in Section 5.7 of the EIS.
7.14	22-3	Merrill, R.	There is also a question about the Lease Turns that nest here as well as the shrimp that are only indigenous to that site.	Direct impacts to the endangered fairy shrimp and least tern would be avoided. The Navy has consulted with the U.S. Fish and Wildlife Service under the Endangered Species Act, and an Informal Consultation Concurrence Letter has been issued with impact avoidance and minimization measures for these and other sensitive biological species. NBC takes environmental stewardship very seriously and has comprehensive, large-scale management programs to protect and conserve the Western Snowy Plover, California Least Tern, San Clemente Loggerhead Shrike, and San Clemente Sage Sparrow. There has been a least tern management program on NBC since 1977 when 13 nests were found on NASNI. Due to these management efforts, NBC supported 1,034 least tern nests in 2013.
7.15	31-6	Armstrong, J. (Caltrans)	Biological Resources: Nuttall's Lotus plants occur on roadway shoulder areas along State Route 75. Proposed changes to access the site from State Route 75 may require measures to avoid, minimize and/or mitigate impacts to the plant.	Nuttall's lotus is not federally listed and has no other Federal status. However, it is found across much of coastal NBC. It is found in multiple locations on NASNI, as well as both the bayside and oceanside areas of NAB Coronado and on SSTC-South. It is one of the focal species (a species watched and monitored) for management per the NBC Integrated Natural Resources Management Plan (INRMP). NBC conducts annual surveys to monitor this species' presence across the properties. The plant is common on NBC, growing in the dune and foredune areas, disturbed and ruderal (long-lasting disturbed areas) areas, and even within parking lots and pavement cracks and potholes of developed areas. A focused survey is conducted every year within the NASNI study area. The NASNI study area is situated just east of Southeast Runway 36 on NASNI and is approximately 7.13 acres in size. Depending on rainfall, the Nuttall's lotus population fluctuates between 15,000 and 80,000 individuals. While the actual total Nuttall's lotus population on NBC is unknown, it is in the tens of thousands of individuals and the plant is found in areas with little development potential. Nuttall's lotus will continue to persist along the fence line and

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				dune/foredune habitat of SSTC-South, and it will likely be able to persist in some ruderal and even developed areas within the proposed footprint as well.
7.16	43-1	McCoy, M.	I think one of the things I'm concerned about is bird strikes on migratory birds on the Pacific Flyway, and the buildings and windows, and things like that. We do a lot of work with the Chula Vista Bayfront Development, and there has been different types of glass to use over there that have been tried in other areas of the United States. So I encourage the Navy to take bird strikes on windows as a serious problem for migratory birds – or whether they are wading shorebirds, or songbirds, or neotropical birds, they use that flyway. So that's going to be an issue that I hope is evaluated and looked into.	The proposed buildings would incorporate bird-friendly designs to reduce and prevent birds from colliding with buildings as is identified in Section 5.7.3.2 of the EIS. Bird-friendly design features include transparent passageways, corners, atria, or courtyards so that birds do not get trapped; appropriately shielded outside lighting directed away from native habitats to minimize attraction to light-migrating songbirds; interior lighting that is turned off at night or designed to minimize light escaping through windows; and landscaping designed to keep birds away from the building's façade. Use of nonreflective or opaque glass; external shades (or other devices to reduce glare, transparency, or reflectiveness) on windows; ultraviolet patterned glass; angled glass; and/or louvers can also aid in reducing bird collisions.
7.17	43-2	McCoy, M.	The other thing is going to be building orientation may be a way to get away from those bird strikes. In other words, the windows should face east and west rather than north and south. It might be better, I don't know, it just depends.	The proposed buildings would incorporate bird-friendly designs to reduce and prevent birds from colliding with buildings as is identified in Section 5.7.3.2 of the EIS. Bird-friendly design features include transparent passageways, corners, atria, or courtyards so that birds do not get trapped; appropriately shielded outside lighting directed away from native habitats to minimize attraction to light-migrating songbirds; interior lighting that is turned off at night or designed to minimize light escaping through windows; and landscaping designed to keep birds away from the building's façade. Use of nonreflective or opaque glass; external shades (or other devices to reduce glare, transparency, or reflectiveness) on windows; ultraviolet patterned glass; angled glass; and/or louvers can also aid in reducing bird collisions.
7.18	43-3	McCoy, M.	The predators are going to be a problem with some of the rooks, and blackbirds, and crows, ravens, all that sort of thing, and certain raptors on those high buildings and trees will be good for predators which will be a predator problem.	Design features that prevent raptors and avian predators from perching near beach habitat would be incorporated into building design as is identified in Section 5.7.2.3 of the EIS. This may include the use of anti-perching devices on light poles, rooftops, and other perching locations that have sight

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				access to the beach area to the west. Additional building design features may include altering roof pitch designs to minimize perching (particularly for predatory avian species), and limiting the number of new light poles or new perching structures.
7.19	43-4	McCoy, M.	And then, mainly some protection of sensitive habitats in and around the whole operation, vernal pools, and other areas that are sensitive to impact.	The proposed Coastal Campus would avoid or minimize impacts to vernal pools and other sensitive natural resources to the extent practicable. The Navy has consulted with the U.S. Fish and Wildlife Service under the Endangered Species Act, and an Informal Consultation Concurrence Letter has been issued with impact avoidance and minimization measures for these and other sensitive biological species. NBC takes environmental stewardship very seriously and has comprehensive, large-scale management programs to protect and conserve the Western Snowy Plover, California Least Tern, San Clemente Loggerhead Shrike, and San Clemente Sage Sparrow. NBC has a comprehensive conservation program, which includes two INRMPs (NBC and San Clemente Island) developed to manage NBC's complex natural resources.
7.20	43-12	McCoy, M.	The building design and painting should blend in with the environment, and lighting should be shielded down so it doesn't create a problem with the ambient environment that would make it very difficult for the birds to migrate.	The proposed buildings would incorporate bird-friendly designs to reduce and prevent birds from colliding with buildings as is identified in Section 5.7.3.2 of the EIS. Bird-friendly design features include transparent passageways, corners, atria, or courtyards so that birds do not get trapped; appropriately shielded outside lighting directed away from native habitats to minimize attraction to light-migrating songbirds; interior lighting that is turned off at night or designed to minimize light escaping through windows; and landscaping designed to keep birds away from the building's façade. Use of nonreflective or opaque glass; external shades (or other devices to reduce glare, transparency, or reflectiveness) on windows; ultraviolet patterned glass; angled glass; and/or louvers can also aid in reducing bird collisions.
7.21	53-2	Giffen, J. (Port of SD)	According to Table ES-3 Summary of Effects, the proposed Project and all of its alternatives would not result in impacts to the California least tern, and there would be a loss of 0.15	Thank you for your comment.

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			acres of critical habitat for the Western Snowy Plover (WSP). The DEIS states that biological impacts would be mitigated by continued monitoring of the number of species, quality of habitat and potential behavior changes. In addition, the DEIS identifies several mitigation measures which are specific to the WSP and its habitat (B-25 to B-31). Provided that impacts are limited to 0.15 acres of WSP critical habitat, and that all mitigation measures identified in the DEIS are implemented, the Port does not have any issues with the proposed Project or its alternatives.	
7.22	60-2	Phillips, C. (CA Parks and Rec)	CSP is concerned that the Project will cause significant adverse effects to Western Snowy Plover (WSP) and WSP critical habitat. Only 0.23 acres of southern fore dune (WSP habitat) are estimated to be directly impacted by the Project but the increase in the intensity of use of the site (1.5 million square feet of facilities over a 161.8 acre development site and presence of approximately 3,500 people per day) will likely result in significant adverse impact to WSP.	Impacts to federally listed species have been avoided or minimized to the extent practicable. The Navy has consulted with the U.S. Fish and Wildlife Service under the Endangered Species Act, and an Informal Consultation Concurrence Letter has been issued with impact avoidance and minimization measures for sensitive biological species. In addition, the Navy will distribute educational materials and/or install interpretive panels to inform military and civilian personnel of the sensitive species on SSTC-South and measures in place to avoid impacts (e.g., no recreational use of the beach, meaning activities not associated with approved training, is permitted). NBC takes environmental stewardship very seriously and has comprehensive, large-scale management programs to protect and conserve the Western Snowy Plover, California Least Tern, San Clemente Loggerhead Shrike, and San Clemente Sage Sparrow. NBC has a comprehensive conservation program, which includes two INRMPs (NBC and San Clemente Island) developed to manage NBC's complex natural resources. When the snowy plover was federally listed as endangered in 1993, NBC supported 19 plover nests. In 2013, there were 130 nests found on NBC.
7.23	60-3	Phillips, C. (CA Parks and Rec)	Predators – The large increase in facilities (including cafeterias, convenience stores, perching opportunities, lighting, site landscaping, etc.) and people to the training complex will increase the amount of food, freshwater and habitat available to animals that thrive around human settlements and prey upon native wildlife including WSP. It	Design features that prevent raptors and avian predators from perching near beach habitat would be incorporated into building design as is identified in Section 5.7.2.3 of the EIS. This may include the use of anti-perching devices on light poles, rooftops, and other perching locations that have sight access to the beach area to the west. Additional building design features may

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			is expected that Common Raven, California gull, California ground squirrel, Argentine ant, black rat, and other nuisance species will benefit from the Project development and expand their presence in the vicinity.	include altering roof pitch designs to minimize perching (particularly for predatory avian species), and limiting the number of new light poles or new perching structures. Further, EIS Section 5.7 outlines avoidance, minimization, and compensation measures for impacts to biological resources. This section includes measures designed to minimize use of the site by predators and other nuisance species. Specifically, see measures B-17 and B-20 in EIS Section 5.7.
7.24	60-4	Phillips, C. (CA Parks and Rec)	Loss of Buffer – CSP is also concerned about the 485 foot long approach lane and associated widening of south bound HWY 75. The DEIR suggests that the land immediately adjacent to southbound HWY 75 does not support WSP breeding habitat and will not adversely impact WSP if developed. While this area does not support WSP nesting it is important to the SSSB Natural Preserve (Preserve) in that it acts as a buffer to the suitable breeding habitat. As this buffer is reduced in size it will bring adverse urban effects (for example noise, pollutants, impermeable surfaces, invasive plants and animals) closer to breeding sites of WSP and other rare species within the Preserve. Because of its proximity to the highway the buffer area (between the chain link fencing and the highway) is subject to more frequent physical disturbance and an excess of freshwater from precipitation runoff from the impermeable highway surface. These factors support greater densities of productive invasive plant species that will encroach further into the Preserve area reducing potential breeding habitat for WSP and providing cover for mammalian predators.	The SR-75/SSSB Buffer Area would not be directly impacted by the project. Therefore, habitat within this buffer would not need to be restored or maintained by the Navy as it would remain in its current state. Indirect impacts to Western Snowy Plovers are addressed under Navy's consultation with the U.S. Fish and Wildlife Service under the Endangered Species Act, and an Informal Consultation Concurrence Letter has been issued with impact avoidance and minimization measures for sensitive biological species. The Navy would comply with the measures for enhancing beach habitat per the Informal Consultation Concurrence Letter.NBC takes environmental stewardship very seriously and has comprehensive, large-scale management programs to protect and conserve the Western Snowy Plover and numerous other species. NBC has a comprehensive conservation program, which includes two INRMPs (NBC and San Clemente Island) developed to manage NBC's complex natural resources. When the snowy plover was federally listed as endangered in 1993, NBC supported 19 plover nests. In 2013, there were 130 nests found on NBC.
7.25	60-7	Phillips, C. (CA Parks and Rec)	The DEIR posits that the project will not result in significant adverse effects to Nuttall's lotus (*Acmispon prostratus*). From the mapping data it appears that the majority of the suitable habitat for Nuttall's lotus will be eliminated by the Project. Nuttall's lotus is a California Native Plant Society (CNPS) 1B.1 ranked species. According to CNPS "All of the plants constituting California Rare Plant Rank 1B meet the definitions of Secs.	Under NEPA, the criteria for determining significance are based on the analysis of the potential impacts in terms of both context and intensity. For biological resources, the DoD determines significance based on the degree to which a project alternative impacts species listed under the Federal Endangered Species Act, and associated species habitats, or if the activity would violate any Federal, state, or local laws (40 CFR 1508.27).

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			2062 and 2067 (California Endangered Species Act) of the California Department of Fish and Game Code, and are eligible for state listing. It is mandatory that they be fully considered during preparation of environmental documents relating to CEQA." While the standards are different for a NEPA analysis, the proposed Project's impacts to Nuttall's lotus would likely meet the Federal standards for a significant adverse effect and require the appropriate mitigation.	Nuttall's lotus is not federally listed and has no other Federal status.
7.26	60-9	Phillips, C. (CA Parks and Rec)	Develop and implement an integrated pest management plan that incorporates wildlife proof trash receptacles, perch proof structures, and pest control.	Design features that prevent raptors and avian predators from perching near beach habitat would be incorporated into building design as is identified in Section 5.7.2.3 of the EIS. This may include the use of anti-perching devices on light poles, rooftops, and other perching locations that have sight access to the beach area to the west. Additional building design features may include altering roof pitch designs to minimize perching (particularly for predatory avian species), and limiting the number of new light poles or new perching structures. Further, EIS Section 5.7 outlines avoidance, minimization, and compensation measures for impacts to biological resources. This section includes measures designed to minimize use of the site by predators and other nuisance species.
7.27	60-10	Phillips, C. (CA Parks and Rec)	Provide funding for a predator control contractor that manages predators both on Navy Land and on the southern 1,000 feet of the Silver Strand State Beach Preserve during the WSP breeding season.	Design features that prevent raptors and avian predators from perching near beach habitat would be incorporated into building design as is identified in Section 5.7.2.3 of the EIS. This may include the use of anti-perching devices on light poles, rooftops, and other perching locations that have sight access to the beach area to the west. Additional building design features may include altering roof pitch designs to minimize perching (particularly for predatory avian species), and limiting the number of new light poles or new perching structures. Further, EIS Section 5.7 outlines avoidance, minimization, and compensation measures for impacts to biological resources. This section includes measures designed to minimize use of the site by predators and other nuisance species. Further, impacts to federally listed species have been

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				avoided and minimized to the greatest extent practicable. The Navy has consulted with the U.S. Fish and Wildlife Service under the Endangered Species Act, and an Informal Consultation Concurrence Letter has been issued with impact avoidance and minimization measures for sensitive biological species. NBC takes environmental stewardship very seriously and has comprehensive, large-scale management programs to protect and conserve the Western Snowy Plover and other sensitive species. NBC has a comprehensive conservation program, which includes two INRMPs (NBC and San Clemente Island) developed to manage NBC's complex natural resources. When the snowy plover was federally listed as endangered in 1993, NBC supported 19 plover nests. In 2013, there were 130 nests found on NBC.
7.28	60-11	Phillips, C. (CA Parks and Rec)	Employ a permanent, full time natural resource site manager to coordinate minimization, avoidance, and mitigation measures and provide monitoring and enforcement support for WSP habitat onsite and adjacent to The SSSB Preserve.	Federal properties are required to manage natural resources via an approved INRMP. The Navy INRMP for SSTC-South serves to manage ecosystems, including watersheds and wetlands. Impacts to federally listed species have been avoided or minimized to the extent practicable. The Navy has consulted with the U.S. Fish and Wildlife Service under the Endangered Species Act, and an Informal Consultation Concurrence Letter has been issued with impact avoidance and minimization measures for sensitive biological species. NBC takes environmental stewardship very seriously and has comprehensive, large-scale management programs to protect and conserve the Western Snowy Plover and other sensitive species. NBC has a comprehensive conservation program, which includes two INRMPs (NBC and San Clemente Island) developed to manage NBC's complex natural resources. When the snowy plover was federally listed as endangered in 1993, NBC supported 19 plover nests. In 2013, there were 130 nests found on NBC.
7.29	60-13	Phillips, C. (CA Parks and Rec)	Incorporate Nuttall's lotus into landscaping, restore and enhance populations of Nuttall's lotus in preserved land on the site.	INRMP-approved plant palettes will be used during restoration and landscaping. Nuttall's lotus is a disturbance requiring, short-lived perennial or annual, so it is typically inappropriate for landscaping.
7.30	60-14	Phillips, C. (CA Parks	Conserve the remaining habitat onsite into a natural preserve (or Navy	Impacts to habitat on-site would be minimized and avoided to the greatest

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		and Rec)	equivalent).	extent feasible. The Navy cannot commit to preserving lands in perpetuity. Federal properties are required to manage natural resources via an approved INRMP. The Navy INRMP for SSTC-South serves to manage ecosystems, including watersheds and wetlands. Impacts to federally listed species have been avoided or minimized to the extent practicable. NBC takes environmental stewardship very seriously and has comprehensive, large-scale management programs to protect and conserve sensitive species. NBC has a comprehensive conservation program, which includes two INRMPs (NBC and San Clemente Island) developed to manage NBC's complex natural resources. There has been a least tern management program on NBC since 1977 when 13 nests were found on NASNI. Due to these management efforts, NBC supported 1,034 least tern nests in 2013. When the snowy plover was federally listed as endangered in 1993, NBC supported 19 plover nests. In 2013, there were 130 nests found on NBC.
7.31	60-15	Phillips, C. (CA Parks and Rec)	Communication and coordinate with State Park staff and contractors with quarterly meetings to improve regional WSP management efforts.	The Navy currently coordinates and communicates with State Parks staff regularly regarding Snowy Plover management and will continue to do so.
7.32	60-16	Phillips, C. (CA Parks and Rec)	Restore habitat and provide ongoing maintenance within the HWY75/SSSB Buffer Area along length of 485 feet deceleration lane.	The SR-75/SSSB Buffer Area would not be directly impacted by the project. Therefore habitat within this buffer would not need to be restored or maintained by the Navy as it would remain in its current state. Indirect impacts to Western Snowy Plovers are addressed under Navy's consultation with the U.S. Fish and Wildlife Service under the Endangered Species Act, and an Informal Consultation Concurrence Letter has been issued with impact avoidance and minimization measures for sensitive biological species. The Navy would comply with the measures for enhancing beach habitat per the Informal Consultation Concurrence Letter.
7.33	60-18	Phillips, C. (CA Parks and Rec)	Develop and implement an educational outreach program to train and refresh training about working within close proximity to Sensitive Species and Habitats. Provide all staff with rules regarding protection of the Sensitive lands on Naval and State Park Property. Implement an	As outlined in EIS Section 5.7, under measure B-7, environmental training would be provided to all construction personnel prior to commencing work. Further, the Navy has consulted with the U.S. Fish and Wildlife Service under the Endangered Species Act, and an

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			enforcement program so that the rules are strictly followed.	Informal Consultation Concurrence Letter has been issued with impact avoidance and minimization measures for sensitive biological species. NBC takes environmental stewardship very seriously and has comprehensive, large-scale management programs to protect and conserve the Western Snowy Plover, California Least Tern, San Clemente Loggerhead Shrike, and San Clemente Sage Sparrow. NBC has a comprehensive conservation program, which includes two INRMPs (NBC and San Clemente Island) developed to manage NBC's complex natural resources.
			CULTURAL RESOURCES	
8.1	11-1	NNP	Please keep the bunker.	The Navy action proponents have selected Alternative 1 (SSTC-South Bunker Demolition Alternative, which includes the demolition of Building 99) as the preferred alternative. Section 2.6 of the Final EIS provides justification for this selection. A Memorandum of Agreement between the Navy and California State Historic Preservation Officer (SHPO) was signed on 25 February 2015 regarding the demolition of Building 99. A decision will not be finalized until after the Final EIS is prepared and a Record of Decision is signed by the Assistant Secretary of the Navy.
8.2	13-1	NNP	Keep bunker, the benefits don't outweigh the costs and hassle of removal.	The Navy action proponents have selected Alternative 1 (SSTC-South Bunker Demolition Alternative, which includes the demolition of Building 99) as the preferred alternative. Section 2.6 of the Final EIS provides justification for this selection. A Memorandum of Agreement between the Navy and SHPO was signed on 25 February 2015 regarding the demolition of Building 99. A decision will not be finalized until after the Final EIS is prepared and a Record of Decision is signed by the Assistant Secretary of the Navy.
8.3	19-2	Royle Jr., J.	While a 1997 evaluation found the remaining elements of the Coronado heights historic landscape are not NRHP-eligible, they do still convey some feeling for that historic period. As such, we would suggest that the remaining portions of the original highway and the cypress trees be retained if possible in the ultimate design of the new facility.	The Navy would consider retaining the remaining portions of the original highway and the cypress trees in the final design.
8.4	19-3	Royle Jr., J.	The cultural resources mitigation	The Final EIS has been revised

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			measures in Section 5.8 of the DEIS need to acknowledge that all recovered archaeological collections, other than NAGPRA-eligible material, is to be curated at a facility meeting the standards of 36 CPR 79. As a federally-funded project, this applies to the collections regardless of whether the land on which they are covered is in military, non-military Federal, or non-Federal ownership.	(Section 5.8) to acknowledge that all recovered archaeological collections will be curated per 36 CFR 79.
8.5	19-4	Royle Jr., J.	Regarding historical structures and features, the destruction of the NRHP-eligible Building 99 seems both undesirable and unnecessary given that Alternative 2 and Alternative 3 are available. The cost of demolition of Building 99 would be enormous given, as we were told on-site, that the roof alone is 17 feet of reinforced concrete. Clearly, too, a large amount of the resulting debris would be far more than could be reused on-site, so disposal costs, both for hauling and landfill fees, would be significant, as well as unnecessarily consuming landfill space. Further, it would take an extended period of time, potentially complicating construction of much of the project as work would frequently be interrupted by the blasting. And all that expense would yield a total of only 4.6 acres.	The Navy action proponents have selected Alternative 1 (SSTC-South Bunker Demolition Alternative, which includes the demolition of Building 99) as the preferred alternative. Section 2.6 of the Final EIS provides justification for this selection. A Memorandum of Agreement between the Navy and SHPO was signed on 25 February 2015 regarding the demolition of Building 99. A decision will not be finalized until after the Final EIS is prepared and a Record of Decision is signed by the Assistant Secretary of the Navy.
8.6	19-5	Royle Jr., J.	SDCAS recognizes the need for this project to go forward, but strongly urges selection of either Alternative 2 or Alternative 3, to prevent unnecessary destruction of the nation's military heritage.	The Navy action proponents have selected Alternative 1 (SSTC-South Bunker Demolition Alternative, which includes the demolition of Building 99) as the preferred alternative. Section 2.6 of the Final EIS provides justification for this selection. A Memorandum of Agreement between the Navy and SHPO was signed on 25 February 2015 regarding the demolition of Building 99. A decision will not be finalized until after the Final EIS is prepared and a Record of Decision is signed by the Assistant Secretary of the Navy.
8.7	20-1	Toler, D. (San Pasqual Band)	We want special care if any artifacts or remains are found. The legal process that is in place gives us a level of confidence that care will be taken.	The Final EIS has been revised (Section 5.8) to acknowledge that all recovered archaeological collections will be curated per 36 CFR 79.
8.8	52-3	Smith, P.	I'm a diehard fan of Imperial Beach and am a lifelong San Diego Countian. I love our history. But some bomb shelters that never saw action located on a limited access military facility do not, in my view, come close	The Navy action proponents have selected Alternative 1 (SSTC-South Bunker Demolition Alternative, which includes the demolition of Building 99) as the preferred alternative. Section 2.6 of the Final EIS provides justification for

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			to reaching the must-preserve crossbar, particularly if preserving them were to mean complicating a much needed enhancement for Navy special warfare at this point in time.	this selection. A Memorandum of Agreement between the Navy and SHPO was signed on 25 February 2015 regarding the demolition of Building 99. A decision will not be finalized until after the Final EIS is prepared and a Record of Decision is signed by the Assistant Secretary of the Navy.
8.9	57-4	Threlkeld, S.	Also you might consider taking ALL of the old circular antennae down rather than saving a portion for posterity, but this in my mind in not a very significant issue. It will be beneficial to remove this archaic and utilitarian structure as it mostly just constitutes an eye sore these days.	Demolition of the majority and preservation of a portion of the Wullenweber Antenna Array are not part of the Proposed Action. It has undergone separate environmental review and would be complete before the proposed Coastal Campus would be constructed.
8.10	60-20	Phillips, C. (CA Parks and Rec)	Given the extent of known archaeological resources within the area and the potential to discover unknown cultural resources and the potential discovery of human remains within the APE, in addition to a qualified archaeological monitor, a Native American monitor should be included in the monitoring and data recovery plan.	The Navy consulted with the Kumeyaay regarding the NBC Coastal Campus and with SHPO regarding the determinations of noneligibility. The conditions of the MOA between the Navy and SHPO would be implemented (Appendix E).
8.11	60-21	Phillips, C. (CA Parks and Rec)	San Diego Coast District (SDCD) cultural resources staff also request any project related cultural resources reports (including final monitoring report) in order to better understand the project scope and the potential impacts as well as the overall regional understanding of human occupation on the Silver Strand.	The Navy has provided the SDCD with the suite of existing reports provided to consulting parties for the Section 106 consultation.
8.12	60-22	Phillips, C. (CA Parks and Rec)	In response to the following statement, included in the Naval Base Coronado Coastal Campus EIS, that an “Intensive pedestrian archaeological survey has also been conducted [1982] of Silver Strand [State] Beach immediately adjacent to SSTC-South to the north (Woodward and Stammerjohan 1985)” (2014:3.8-8), it is important to note that cultural resources have been identified since that time and that the record search data obtained as part of the 1982 cultural resources survey was incomplete and therefore the results documented are outdated. It is recommended that an intensive archaeological survey along the beach be conducted prior to potential ground disturbing activities. In addition, if any work is to be conducted on State Park property the CRM should consult with SDCD	EIS Section 3.8.2.3 notes that currently unknown cultural resources may exist in these areas. Measure CR-1 in Section 3.8.4 of the EIS specifies coordination with State Parks and Caltrans for cultural resources surveys for proposed off-site traffic and access improvements.

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			Archaeologist.	
8.13	60-23	Phillips, C. (CA Parks and Rec)	Please submit cultural resource documents to SDCD Archaeologist Nicole Turner (Nicole.Turner@parks.ca.gov).	The Navy has provided the SDCD with the suite of existing reports provided to consulting parties for the Section 106 consultation.
8.14	64-3	Elwell, J.	THERE ARE ISSUES REGARDING THE NATIONAL PRESERVATION ACT that were dismissed and declared non eligible because by consultants as lacking integrity and even though plants and animals are rare and endangered are not listed as Federal Endangered List. The evidence reveals there are historic importance and enormous amount of important bird and plant species.	The Navy has consulted with SHPO under Section 106 of the National Historic Preservation Act (NHPA) for its concurrence on recommendations of cultural resource noneligibility and for development and implementation of a Memorandum of Agreement to address adverse effects to the bunker. SHPO signed the Memorandum of Agreement on 25 February 2015. Also,the Navy has consulted with the U.S. Fish and Wildlife Service under the Endangered Species Act, and an Informal Consultation Concurrence Letter has been issued with impact avoidance and minimization measures.
			TRAFFIC AND CIRCULATION	
9.1	3-1	Ford, J. (SBUSD)	Increasing traffic flow will impact students walking to and from school increasing danger—as well as students/parents at bus stops.	The Navy is implementing a new Entry Control Point along SR-75 to avoid increasing traffic along the residential and school areas of Imperial Beach.
9.2	3-2	Ford, J. (SBUSD)	Concern as well—mitigation of timing is NOT going to solve the problem.	The traffic analysis defined several mitigation measures that, as a whole, mitigate the project's impact to traffic flow. The mitigations were developed in coordination with Caltrans.
9.3	3-3	Ford, J. (SBUSD)	Allow a "right turn" only into new gate to keep personnel to use bridge and enter southbound Highway 75 only.	Limiting access to the new gate would result in increased traffic through the residential areas of Imperial Beach and Coronado, which is not consistent with Navy's vision of integrating the new campus into the surrounding communities.
9.4	3-4	Ford, J. (SBUSD)	Keep traffic off Palm Avenue for safety of students walking and on school buses.	The Navy is implementing a new Entry Control Point along SR-75 to avoid increasing traffic along the residential and school areas of Imperial Beach.
9.5	7-2	Jiampa, C.	The traffic study does not seem like it is currently coordinated with some proposed plans from the City of Imperial Beach. Why haven't they been taken into account? And can the City and the Navy coordinate?	The Navy will address a Transportation Demand Management Plan via the Traffic Advisory Committee. Elements of such a plan would include commuting, parking, and traffic mitigation options.
9.6	7-3	Jiampa, C.	Currently traffic along Palm is at capacity and packed. What is the proposed plan for increased traffic along Palm?	The traffic analysis defined several mitigation measures that, as a whole, mitigate the project's impact to traffic flow. The mitigations were developed in coordination with Caltrans.
9.7	9-3	NNP	We are concerned about the amount of traffic coming to our city. Please keep traffic out of residential	The Navy is implementing a new Entry Control Point along SR-75 to avoid increasing traffic along the residential

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			neighborhoods.	and school areas of Imperial Beach.
9.8	9-4	NNP	Please look at another location for entering the Navy property.	The proposed Entry Control Point is located in this location because that is where the existing Hooper Boulevard access currently exists and because it provides the safest ingress/egress to the Coastal Campus. This location provides the necessary traffic line-of-sight safety distance to oncoming traffic. In addition, the access cannot be moved farther south due to the existing berm and sensitive natural and cultural resources associated with it. The Navy has coordinated with Caltrans on this proposed access location.
9.9	15-1	Woiwode, M.	I would like the design to encourage the use of public transit, biking, and walking. Ease of access from bus stop to campus; excellent sidewalks and bike paths; and less convenient parking can all help.	The Navy will address a Transportation Demand Management Plan via the Traffic Advisory Committee. Elements of such a plan would include commuting, parking, and traffic mitigation options.
9.10	21-1	Kravitz, E.	These same routes that we researched happen to go right up to the South Gate at Ft. Emory. What a coincidence that my proposed light rail and tourist rail proposal from 1999 might provide major traffic mitigation for proposed basin expansion. Any place along the Coronado Beltline right-of-way or connecting trolley system would instantly become a “Park & Ride” for Navy and support personnel to leave their cars and motorcycles at home or a satellite parking facility and take light rail instead.	The Navy appreciates your efforts trying to establish new transit options to the area.
9.11	21-2	Kravitz, E.	I believe that my rail proposals should be noticed by the Navy because of various Navy Programs already in existence that might provide funding immediately for such a project.	The Navy appreciates your efforts trying to establish new transit options to the area.
9.12	21-3	Kravitz, E.	Why not make it a win-win for everyone including the Navy. Restoration of the rail line and light rail transit would make the Navy traffic almost invisible compared to now.	The Navy appreciates your efforts trying to establish new transit options to the area.
9.13	23-1	Besikof, J.	After reading the study I do not believe that enough time was spent on ways to reduce traffic congestion, noise and light pollution from such a large installation. During peak hours it is already difficult to get through to I-5 through Coronado or Imperial Beach.	The Navy will address a Transportation Demand Management Plan via the Traffic Advisory Committee. Elements of such a plan would include commuting, parking, and traffic mitigation options.
9.14	23-2	Besikof, J.	The treatment of the intersection into the Base is not very well explained and looks like a big problem.	The Navy is coordinating with Caltrans to create an intersection that has standard design features and operates with acceptable delays.

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9.15	23-3	Besikof, J.	Please take a closer look at what you want to accomplish. I believe you can do a better job and with less impact on Coronado residents.	NEPA requires Federal agencies to examine the entirety of environmental effects of their proposed actions. An EIS is a detailed public document that provides an assessment of the potential effects that a major Federal action might have on the human environment. It examines the purpose and need for the action and analyzes a range of reasonable alternatives to that action. It provides the public multiple opportunities for input. Over this 4-year process the Navy has thoroughly evaluated its purpose and needs, alternatives, and environmental effects.
9.16	26-1	Friedl, P.	An active Navy RFG strategy will remove up to 95% of military traffic going to and between the existing bases and the new coastal campus—the Navy should understand this and include RFG in its Coastal Campus plans.	The Navy will address a Transportation Demand Management Plan via the Traffic Advisory Committee. Elements of such a plan would include commuting, parking, and traffic mitigation options.
9.17	27-2	Walter, S.	How will the immediate influx of traffic affect the area after the 10 year project is completed? Although the recommendation to carpool and avoid peak hours is given, how will this immediately affect the local people and public transportation?	The traffic analysis evaluated each construction year and after the 10-year project is completed, and documented the findings.
9.18	28-1	Janney, J. (City of IB)	The EIS identifies a number of intersections within and outside the City that will be impacted by development of the Coastal Campus. The City requests that the Navy work with the City and the City's traffic engineering consultant (KOA Corporation) to develop a mitigation program to address the traffic impacts identified in the EIS. One focus of primary concern to the City is the intersection of Silver Strand Boulevard and Palm Avenue that is already impacted by traffic from the existing entry gate to the Naval Radio Receiving Facility. Even though the EIS does not identify significant impacts due to the project at this intersection, the City anticipates that additional traffic generated from the proposed Coastal Campus, both during and postconstruction, would impact this and other nearby local streets and intersections. Mitigation measures for this intersection that should be considered include: the relocation of the southern gate at the north end of Silver Strand Boulevard farther north onto Navy property to provide increased queuing distance to	The Navy will address a Transportation Demand Management Plan via the Traffic Advisory Committee. Elements of such a plan would include commuting, parking, and traffic mitigation options. As is stated in the EIS, the traffic volumes in and out of the southern gate would not increase. The Navy would monitor traffic at this location and incorporate measures as necessary to ensure these volumes do not increase. Pedestrian and bicycle traffic would be encouraged. The Navy recently improved the South Gate and relocating the gate is not part of the Proposed Action. The Navy has committed to limiting Coastal Campus traffic volumes at the South Gate to current traffic volumes and to restrict use of the South Gate hours of operation.

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			reduce the amount of traffic congestion that might otherwise occur on Silver Strand Way; installing appropriate traffic control mechanisms at Silver Strand Way to control east/west traffic on Palm Avenue; instituting modified hours of operation (i.e. between 10:00 a.m. to 2:00 p.m.) for the southern gate; and consideration of restricting the southern gate to pedestrian and bicycle traffic only.	
9.19	28-2	Janney, J. (City of IB)	The City requests that all identified traffic impact Mitigation Measures and specifically identified traffic Impact Avoidance and Minimization Measures of the EIS be funded and implemented prior to and/or with construction of the proposed Coastal Campus and completed by 2024. The design and construction of these improvements should be developed in close coordination with Caltrans and the cities of Imperial Beach, San Diego and Coronado. This would help to address the significant traffic impacts identified in the EIS that could otherwise adversely impact the cities of Imperial Beach, San Diego and Coronado.	The Navy would fund the off-site traffic improvements through the Defense Access Road program. The in-depth traffic analysis did not identify the need for several of the roadway improvements until full build-out of the Coastal Campus and build-out of the surrounding communities modeled to represent year 2040. These improvements are not needed prior to 2040. The Navy would coordinate these improvements with Caltrans and the Cities of Imperial Beach, San Diego, and Coronado.
9.20	28-3	Janney, J. (City of IB)	The City requests that the Navy work with Caltrans, the City, and the City of San Diego to design and implement traffic signalization modifications and/or signal rephasing throughout the entire Palm Avenue/SR-75 corridor from I-5 to the proposed northern entry gate of the proposed Coastal Campus. City staff has been evaluating and analyzing the traffic and circulation along Palm Avenue/SR-75 as part of its Palm Avenue Mixed Use and Commercial Corridor Master Plan and has made preliminary determinations that, through signal timing and phasing modifications, significant improvements to levels of service can result. Given the significant number and increase of average daily vehicle trips of 8,886 with the proposed Coastal Campus, along with the significant and potentially significant impacts to traffic that the proposed Coastal Campus will create, the City requests that the Navy fund the study and implementation of a comprehensive traffic signalization re-timing and re-phasing effort for the	The Navy will address a Transportation Demand Management Plan via the Traffic Advisory Committee. Elements of such a plan would include commuting, parking, and traffic mitigation options.

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			Palm Avenue/SR-75 corridor from I-5 to the proposed Coastal Campus to help mitigate the identified significant traffic impacts.	
9.21	28-4	Janney, J. (City of IB)	As part of the above-requested traffic signalization modifications, the traffic signals along SR-75 should be upgraded to incorporate the latest technology that provides more effective signal synchronization and efficiency in order to deal with the increased traffic that would result from the project. The Navy should work with the City's traffic engineering consultant to examine signal lights that can react to current traffic conditions without "timed delays" at intersections when no traffic is present and examine preferential treatment of east/west traffic during peak hour traffic, and limit turning movements onto Palm Avenue/SR-75 during peak traffic periods.	The Navy will address a Transportation Demand Management Plan via the Traffic Advisory Committee. Elements of such a plan would include commuting, parking, and traffic mitigation options. All traffic mitigations proposed were developed in coordination with Caltrans staff.
9.22	28-5	Janney, J. (City of IB)	The City does not have a traffic impact fee system and, therefore, does not have the funds programed to install street and traffic signal improvements and/or to maintain the improvements as a result of this project. As mitigation, the City believes that the Navy should participate in and/or fund the cost of completing the necessary upgrades to the intersections and traffic signals along Palm Avenue/SR-75 to accommodate the traffic increases clearly resulting from the proposed project. Rather than simply identify the problem, there should be actual mitigation of the impacts based on the fact that the City will be significantly impacted by a decision wholly outside of its jurisdictional purview.	The Navy would fund the off-site traffic improvements identified in the EIS through the Defense Access Road program.
9.23	28-6	Janney, J. (City of IB)	Underground conduits for a traffic light at the Palm Avenue and Rainbow Drive intersection have already been installed. As the EIS identifies potential impacts to this intersection resulting from the proposed project, the City requests that the Navy install this signal as a part of the Coastal Campus project.	The Navy will address a Transportation Demand Management Plan via the Traffic Advisory Committee. Elements of such a plan would include commuting, parking, and traffic mitigation options.
9.24	28-7	Janney, J. (City of IB)	To further mitigate traffic impacts identified in the EIS, the City requests that the Navy develop and implement a Transportation Demand Management (TDM) Plan that would encourage and promote the use of	The Navy will address a Transportation Demand Management Plan via the Traffic Advisory Committee. Elements of such a plan would include commuting, parking, and traffic mitigation options.

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			alternate modes of transportation to and within all Navy facilities including the proposed Coastal Campus. Such TDM measures should include but not be limited to: 1) promoting and implementing carpools and vanpools and the use of public transit to and from Navy installations including the Coastal Campus; 2) designing the Coastal Campus to be pedestrian and bicycle friendly and providing bicycle parking and/or a shared bicycle program within the Coastal Campus; 3) implementing shuttle service between Navy facilities in Imperial Beach and Coronado; 4) implementing an internal shuttle service within the Coastal Campus to transport military and non-military Navy personnel within the Campus and to the southern gate and promoting walk-in or bike-in traffic into Imperial Beach to minimize vehicle trips through the southern gate during lunch hours; and 5) providing north- and south-bound bus stops at the northern entry gate along SR-75.	
9.25	28-8	Janney, J. (City of IB)	If resulting traffic and observed traffic speeds of vehicles leaving the southern gate and along Palm Avenue warrant it, the City requests that the Navy install Radar Speed Signs at the midpoint of Silver Strand Blvd. on the east and west sides of the street and at the midpoint of Palm Avenue between Rainbow Drive and Silver Strand Blvd. on the north and south sides of the street.	The Navy will address a Transportation Demand Management Plan via the Traffic Advisory Committee. Elements of such a plan would include commuting, parking, and traffic mitigation options.
9.26	28-10	Janney, J. (City of IB)	The City requests that the southern gate be restricted to access only during non-commuting hours (i.e., access only between 10:00 AM and 2:00 PM) to mitigate the identified traffic impacts in the primarily residential neighborhood surrounding the southern gate.	The Navy will address a Transportation Demand Management Plan via the Traffic Advisory Committee. Elements of such a plan would include commuting, parking, and traffic mitigation options. As is stated in the EIS, the traffic volumes in and out of the southern gate would not increase. The Navy would monitor traffic at this location and incorporate measures as necessary to ensure these volumes do not increase. Pedestrian and bicycle traffic would be encouraged. The Navy recently improved the South Gate and relocating the gate is not part of the Proposed Action. The Navy has committed to limiting Coastal Campus traffic volumes at the

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				South Gate to current traffic volumes and to restrict use of the South Gate hours of operation.
9.27	28-11	Janney, J. (City of IB)	The City also requests that the entry control point of the southern gate be located several hundred feet within Navy property to allow for adequate (and overflow) vehicle queuing and/or stacking that would otherwise occur on Silver Strand Way.	The Navy will address a Transportation Demand Management Plan via the Traffic Advisory Committee. Elements of such a plan would include commuting, parking, and traffic mitigation options. As is stated in the EIS, the traffic volumes in and out of the southern gate would not increase. The Navy would monitor traffic at this location and incorporate measures as necessary to ensure these volumes do not increase. Pedestrian and bicycle traffic would be encouraged. The Navy recently improved the South Gate and relocating the gate is not part of the Proposed Action. The Navy has committed to limiting Coastal Campus traffic volumes at the South Gate to current traffic volumes and to restrict use of the South Gate hours of operation.
9.28	28-12	Janney, J. (City of IB)	The City requests that the Navy work with Caltrans and the cities of Imperial Beach and San Diego to modify the traffic signal phasing of all intersections within the Palm Avenue/SR-75 Corridor between the proposed Coastal Campus and I-5 to address the significant increase of 8,886 ADT expected with the implementation of Alternative 1. This would also help facilitate the implementation of the Palm Avenue Mixed Use and Commercial Corridor Master Plan on which the City has been working since 2007 and is currently being designed and prepared for environmental analysis.	The Navy will address a Transportation Demand Management Plan via the Traffic Advisory Committee. Elements of such a plan would include commuting, parking, and traffic mitigation options.
9.29	28-13	Janney, J. (City of IB)	The Cumulative Impacts discussion of the Executive Summary (page E-19, lines 18 through 23) states that “traffic generation associated with military and civilian projects that are completed, in progress, or planned for development in Coronado and Imperial Beach have been factored into SANDAG’s traffic forecasts” and that “regional-level planning has taken place to consider associated traffic levels” such that “when added to the impacts from other potentially cumulative projects, the Proposed Action (Alternative 1) would not result in significant cumulative impacts to	The text in the Final EIS has been revised to clarify this statement. The Navy will provide SANDAG with information to appropriately capture the traffic in future model runs.

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			traffic and circulation." SANDAG, however, has advised the City and its traffic engineering consultant that this not accurate.	
9.30	28-14	Janney, J. (City of IB)	Given that significant impacts to traffic and circulation are identified in the EIS and mitigation and impact avoidance and minimization measures are proposed, the City requests that the Federal Government (Navy) fund the implementation of these measures during design and construction of the project by 2024.	The Navy would fund the off-site traffic improvements through the Defense Access Road program. The in-depth traffic analysis did not identify the need for several of the roadway improvements until full build-out of the Coastal Campus and build-out of the City of Imperial Beach in the year 2040. These improvements are not needed prior to 2040. The Navy would coordinate these improvements with Caltrans and the Cities of Imperial Beach, San Diego, and Coronado.
9.31	28-15	Janney, J. (City of IB)	The Summary Table of the Executive Summary (Table ES-3, page ES-44) states that "significant and unmitigable temporary traffic impacts may occur during the construction phase of the project along the transportation route between the Proposed Action footprint and I-5 in Imperial Beach." The City requests that all reasonable measures be taken to reduce or mitigate these impacts in the City to the maximum extent possible.	The Navy would work to establish and implement measures to reduce construction traffic to the extent practical.
9.32	28-16	Janney, J. (City of IB)	The Mitigation Identification and Implementation Table of the Executive Summary (Table ES-4, page ES-56) identifies mitigation measures, their benefit, evaluation criteria, implementation, responsible command and date of implementation. For the significant Traffic and Circulation impacts, Table ES-4 identifies the Responsible Party as "Host or Tenant Command, as appropriate and Caltrans and the City of Imperial Beach." As noted above, since the identified impacts are a direct result of the proposed project, the City believes and, therefore requests, that the Navy be responsible for the costs to design and implement the required mitigation measures.	The Navy would fund the off-site traffic improvements identified in the EIS through the Defense Access Road program.
9.33	28-17	Janney, J. (City of IB)	The City opposes the "Construction North, Operations South" Construction Scenario as this would create "significant and unmitigable impacts" at several intersections in Imperial Beach (Chapter 3.9.2.4, page 3.9-35 lines 5 and 6) and requests, therefore, that the "North Only" Construction Scenario be utilized. Although the	The proposed Entry Control Point would be fully constructed in 2017. An interim north gate access would be established to handle all Building 99 demolition traffic and initial construction traffic. The Navy would work to establish and implement measures to reduce construction traffic to the extent practical.

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			"North Only" Construction Scenario would also have significant and unmitigable traffic impacts, they would occur primarily along Palm Avenue/SR-75 which already carries most traffic through Imperial Beach and would minimize adverse impacts to the residential neighborhood surrounding the southern entry gate. However, all construction-related impacts should be minimized to the maximum extent possible.	
9.34	28-18	Janney, J. (City of IB)	Depending upon the year and number of Nuclear-Powered Aircraft Carriers (referred to as "Carrier Vessel Nuclear or CVN's") that are in port, the EIS identifies significant traffic impacts at anywhere from 5 to 8 intersections in Imperial Beach. Given these significant impacts, the City requests that the Navy work with the City of Imperial Beach to implement all of the identified mitigation and improvement measures as well as other Palm Avenue/SR-75 corridor improvements currently being designed by the City to mitigate these impacts. All such measures should be funded and implemented by the Federal Government/Navy by 2024.	The Navy would coordinate with the Cities of Imperial Beach and San Diego, as well as Caltrans, as it moves to implement identified mitigation.
9.35	28-19	Janney, J. (City of IB)	Chapters 3.9.2.2.1 (Existing with 1 CVN Conditions) and 3.9.2.2.2 (Existing with 2 CVNs Conditions) of the EIS identify existing levels of service (LOS) for the "7th Street and Silver Strand Blvd (SR-75)" (Intersection 19) at "F" for the AM peak period and "E" for the PM peak period. The City has reviewed several traffic analyses recently for projects proposed along Palm Avenue/SR-75 and has also conducted its own traffic analysis for the Palm Avenue Mixed Use and Commercial Corridor Master Plan all of which show substantially better results for this intersection. The City requests and recommends that the Navy's traffic engineering consultants revisit the intersection delay/LOS for this location for accuracy since the results do not replicate actual conditions in the other recent studies the City has reviewed for this location which show better results.	The Navy has revisited the intersection evaluation and updated the analysis and text as appropriate.
9.36	28-28	Janney, J. (City of IB)	The City firmly believes that all Mitigation Measures T-1 through T-6 identified on pages 5-20, 5-21 and 5-24, in Chapter 5.9.1.1 of the EIS	The Navy will address a Transportation Demand Management Plan via the Traffic Advisory Committee. Elements of such a plan would include

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			should include traffic signal modification and rephasing for each identified affected intersection as stated in the Executive Summary (page ES-15). The City requests that the traffic signalization for all other signalized intersections in the Palm Avenue/SR-75 corridor between Interstate 5 and the northern entry gate of the Coastal Campus also be modified and rephased to mitigate the identified significant traffic impacts. The Navy should work closely with Caltrans and the cities of Imperial Beach, Coronado and San Diego to implement these traffic signal and intersection modifications.	commuting, parking, and traffic mitigation options.
9.37	28-29	Janney, J. (City of IB)	The City believes that the traffic impacts identified in the EIS for this intersection can be mitigated by signalization modification and rephrasing and other measures without having to eliminate this crosswalk.	The Navy will address a Transportation Demand Management Plan via the Traffic Advisory Committee. Elements of such a plan would include commuting, parking, and traffic mitigation options.
9.38	28-30	Janney, J. (City of IB)	The City supports Impact Avoidance and Minimization Measure t-1 (EIS Section 5.9.1.1, page 5-20, lines 4 through 8) to accelerate implementation of the new entry control point (P-947) for SSTC-South "as early as possible" to "prevent traffic in Imperial Beach from becoming excessive and to provide appropriate capacity and security facilities to process the increasing number of vehicles accessing SSTC-South." The North Gate should be completed, with ample queuing on Navy property, prior to any occupation of the new facility to avoid the creation of an unintentional traffic pattern where Navy commuters habituate to using the southern gate in Imperial Beach. Consideration should also be given to possibly installing an overpass for left turns (subject to our traffic consultant and Caltrans review) rather than a center left turn lane for north bound SR-75 traffic onto the base.	The proposed Entry Control Point (P-947) would be fully constructed in 2017. An interim north gate access would be established to handle all Building 99 demolition traffic, initial construction traffic, and initial postconstruction traffic. The Entry Control Point would be designed to provide adequate traffic queuing within the Coastal Campus for security clearance checks. Construction of an overpass would not substantially improve traffic flow and would require additional land in an area known for sensitive cultural and natural resources, and would add a significant visual obstruction to a designated Scenic Highway.
9.39	31-1	Armstrong, J. (Caltrans)	Traffic: On Figure 7-2, for the SB-75 U-turn pocket at Hooper, the total length should be the deceleration length of 485 feet plus approach bay taper. This change should reflect on Synchro as well. Truck turning template should be ran for this U-turn. If it doesn't meet truck turning requirement, advisory Design	Figure 7-2 and the Synchro analysis of the Traffic and Circulation Analysis, Draft Technical Study were revised.

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			Exception will be needed for this U-turn movement.	
9.40	31-2	Armstrong, J. (Caltrans)	Traffic: At the proposed intersection of SR-75 and Hooper, left turn lanes will narrow down the median width so thrie beams and proper crash cushions will need to be installed.	At the intersection of SR-75 and Hooper Boulevard, the Navy understands that thrie beams and crash cushions would be needed.
9.41	31-3	Armstrong, J. (Caltrans)	Traffic: SR-75 and Hooper intersection requires an ICE evaluation. The ICE evaluation must be done during the Environmental Phase, and not Design Phase, because it helps to determine all possible alternatives for the intersection of SR-75 & Hooper.	The Navy understands that an Intersection Control Evaluation (ICE) is needed at the intersection of SR-75 and Hooper Boulevard and the Navy would prepare the necessary ICE documentation.
9.42	31-8	Armstrong, J. (Caltrans)	Right of Way (R/W): The R/W for SR-75 within the Federal ownership is not access controlled. The original deed contains a provision that the Navy can construct any ingress/egress at their discretion.	The Navy acknowledges that it can construct ingress/egress to the project site at its discretion.
9.43	31-9	Armstrong, J. (Caltrans)	General Comments: Any work performed within Caltrans right-of-way (R/W) will require discretionary review and approval by Caltrans and an encroachment permit will be required for any work within the Caltrans R/W prior to construction. Current policy allows Highway Improvement Projects costing $1 million or less to follow the Caltrans Encroachment Permit process. Highway Improvement Projects costing greater than $1 million but less than $3 million would be allowed to follow a streamlined project development process similar to the Caltrans Encroachment Permit process. In order to determine the appropriate permit processing of projects funded by others, it is recommended the concept and project approval for work to be done on the State Highway System be evaluated through the completion of a Permit Engineering Evaluation Report (PEER). A PEER should always be prepared, regardless of the cost of improvements, when new operating improvements are constructed by the permittee that become part of the State Highway System. These include but are not limited to, signalization, channelization, turn pockets, widening, realignment, public road connections, and bike paths and lanes. After approval of the PEER and necessary application and supporting documentation an encroachment	The Navy appreciates clarification of the process and would comply with the process requirements.

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			permit can be issued.	
9.44	31-10	Armstrong, J. (Caltrans)	As part of the encroachment permit process, the applicant must provide an approved final environmental document including the California Environmental Quality Act (CEQA) determination addressing any environmental impacts within the Caltrans' R/W, and any corresponding technical studies. If these materials are not included with the encroachment permit application, the applicant will be required to acquire and provide these to Caltrans before the permit application will be accepted. Identification of avoidance and/or mitigation measures will be a condition of the encroachment permit approval as well as procurement of any necessary regulatory and resource agency permits. Encroachment permit submittals that are incomplete can result in significant delays in permit approval.	The Navy appreciates clarification of the process and would comply with the process requirements.
9.45	31-11	Armstrong, J. (Caltrans)	Improvement plans for construction within State Highway R/W must include the appropriate engineering information consistent with the state code and signed and stamped by a professional engineer registered in the State of California. Cal trans Permit Manual contains a listing of typical information required for project plans. All design and construction must be in conformance with the Americans with Disabilities Act (ADA) requirements.	The Navy appreciates the clarification of the improvement plan process.
9.46	31-12	Armstrong, J. (Caltrans)	The Intersection Control Evaluation (ICE) policy checklist is required to evaluate any intersection modification on state facilities. Attached is the link to the ICE policy: http://dot.ca.gov/hq/traffops/liaisons/ice.html.	The Navy understands that an ICE evaluation is needed at the intersection of SR-75 and Hooper Boulevard and the Navy would prepare the necessary ICE documentation.
9.47	33-1	Baldwin, S. (SANDAG)	The expansion of the NBC Coastal Campus is an excellent opportunity to coordinate with the City of Imperial Beach on local plans and strategies to support non-vehicular travel modes for NBC Coastal Campus employees and visitors. Please consider ways that the proposed development can support the 2050 RTP/SCS vision for a well-connected multi-modal transportation network.	The Navy will address a Transportation Demand Management Plan via the Traffic Advisory Committee. Elements of such a plan would include commuting, parking, and traffic mitigation options.
9.48	33-2	Baldwin, S. (SANDAG)	Additionally, when analyzing future (2050) traffic conditions, SANDAG recommends using the transportation network included in the RTP	The Navy will verify the assumed geometry is consistent with the RTP.

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			Reasonably Expected funding scenario.	
9.49	33-3	Baldwin, S. (SANDAG)	In considering mitigation for regional transportation impacts, please continue to consider alternatives to driving alone during peak periods, such as carpooling, vanpooling, shuttle services, telecommuting and flexible work hours, and the potential of a Transportation Demand Management (TDM) plan as part of this project. Additionally, a parking management plan can assist with reducing parking demand and encourage the use of transportation alternatives. The SANDAG TDM division can assist with TDM and parking management strategies as part of this project.	The Navy will address a Transportation Demand Management Plan via the Traffic Advisory Committee. Elements of such a plan would include commuting, parking, and traffic mitigation options.
9.50	33-4	Baldwin, S. (SANDAG)	The proposed NBC Coastal Campus expansion was not accounted for in the Series 13 Subregional Growth Forecast. SANDAG requests coordination on future updates of the forecast to ensure that any changes in land use and/or employment are incorporated for use in regional planning efforts.	The Navy commits to providing SANDAG with updates of major land use changes and/or employment changes so that they can be incorporated into regional planning efforts. The Navy included SANDAG in the EIS scoping notification process.
9.51	33-5	Baldwin, S. (SANDAG)	It is advised that the project applicant consult with MTS, the transit service provider within the project area, and Caltrans to coordinate planned highway improvements. Coordination with the City of Imperial Beach and City of Coronado is also encouraged.	The Navy will address a Transportation Demand Management Plan via the Traffic Advisory Committee. Elements of such a plan would include commuting, parking, and traffic mitigation options.
9.52	33-6	Baldwin, S. (SANDAG)	We appreciate the opportunity to comment on the EIS for the NBC Coastal Campus. We encourage, as appropriate, consideration of the following tools based on SANDAG publications, which can be found on our website at www.sandag.org.igr. (1) Designing for Smart Growth, Creating Great Places in the San Diego Region (2) Planning and Designing for Pedestrians, Model Guidelines for the San Diego Region (3) Trip Generation for Smart Growth (4) Parking Strategies for Smart Growth (5) Regional Multimodal Transportation Analysis: Alternative Approaches for Preparing Multimodal Transportation Analysis in EIRs	The Navy appreciates SANDAG's feedback on the Draft EIS. The Navy will consider these tools as part of finalizing the design.

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			(6) Integrating Transportation Demand Management into the Planning and Development Process – A Reference for Cities (7) Riding to 2050, the San Diego Regional Bike Plan (8) Healthy Communities Atlas	
9.53	34-18	City of Coronado	Proper planning will enable both the Navy and Coronado to collaborate and address potential issues to resolve impacts so that we can co-exist and partner as neighbours for the next 100 years. Planning would include measures such as redesigned entrances, pedestrian under/over passes, and improved public transportation internal to NAB.	NAB Coronado is built out and no redevelopment or other substantial renovations are proposed. A military base master plan is not like a municipal master plan. The Navy is subject to responding to worldwide events and must be as flexible as possible to address any immediate threats at home and abroad. Planned facilities are subject to world trends and fluctuating Federal funding. The Navy NEPA documents have analyzed and continue to analyze impacts, both project-specific and cumulative, based on the information available at the time the documents are being prepared.
9.54	34-19	City of Coronado	**Mitigation must be provided for the Fourth Street and Orange Avenue intersection, such as development and implementation of a Traffic Reduction/Improvement Program.**	The Navy action proponents have selected Alternative 1 (SSTC-South Bunker Demolition Alternative) as the Preferred Alternative. Section 2.6 of the Final EIS provides justification for this selection. A decision will not be finalized until after the Final EIS is prepared and a Record of Decision is signed by the Assistant Secretary of the Navy. Should Alternative 1 be selected, no impacts would occur to the intersection of Fourth Street and Orange Avenue and, therefore, no mitigation would be necessary. The impacts at the intersection of Fourth Street and Orange Avenue would occur only under Alternative 3, Multi-Installation Alternative.
9.55	34-20	City of Coronado	The EIS does not contain information regarding the Navy's implementation of a Traffic Reduction Program or planned action items to reduce vehicular traffic to and from the sub-bases within (NBC), and the associated degradation of levels of service within the streets/highways of Coronado. **The Navy should develop, commit, and implement a Transportation Reduction/Improvement Program for NBC to reduce individual vehicle trips and incentivize alternative modes of transportation**	The Navy will continue implementing the goals of the 2014 Memorandum of Agreement between the Navy and SANDAG to reduce drive-alone work trips. The Navy will address a Transportation Demand Management Plan via the Traffic Advisory Committee. Elements of such a plan would include commuting, parking, and traffic mitigation options. The Committee would consider the 11 recommendations. Each of the proposed alternatives would involve a shift of Navy personnel from NAB Coronado to SSTC-South

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			to and from Coronado, which would result in a zero net gain in daily trips as a result of this project. Such items could include: (1) Design the Coastal Campus to be pedestrian/bicycle and or shuttle oriented rather than vehicular based with pedestrian/bicycle/shuttle alternative modes of transportation coupled with this basic design feature; (2) Establish and fund an Intra-Base shuttle system to provide transportation to and from sub-bases within NBC; (3) Charge parking fees for vehicles parking at parking lots; (4) Create parking policies and reduce the availability of on-site parking to discourage single vehicle occupancy use and incentivize use of alternative modes of transportation and (5) Establish and further fund carpool and vanpool programs to encourage alternative modes of transportation for all sub-bases within NBC; (6) Reinstate the Ferry service directly to NASNI with active Navy funding participation in the program; (7) Provide additional bus stop in both directions at proposed Hooper signalized intersection and funding to improve service levels of mass transit between the sub-bases of NBC; (8) Provide a new bike and pedestrian path along the west side of SR-75 between the new gate and Imperial Beach to connect with intersection improvements to facilitate bicycle and coastal access to an area where connection does not exist; (9) Implement mandatory alternative days of commuter carpooling; (10) Provide additional funding to staff each entry point gate with sufficient security personnel to maintain a throughput capacity equal to the vehicles accessing the base (i.e., do not allow Navy vehicles to queue on Caltrans or City streets impacting mobility throughout Coronado; and (12) Incorporate base/bases into care share program service areas (for one-way care share programs) and/or provide car share vehicles and dedicate parking spaces on base (for round-trip care share programs).	and would subsequently result in a reduction of traffic trips through the Village. Alternatives 1 and 2 would have a larger shift in traffic than Alternative 3.
9.56	34-21	City of Coronado	Service levels will not improve on streets/highways within the City unless strong commitments are made to implement programs that reduce single vehicle occupant use. For	The Navy will continue implementing the goals of the 2014 Memorandum of Agreement between the Navy and SANDAG to reduce drive-alone work trips. The Navy will address a

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			example, the City has made commitments along these lines by funding and implementing the Free Summer shuttle within the City. The Free shuttle has been operation for the past two years and ridership has increased by over 500%; thereby removing vehicles from Orange Avenue during the summer. The City has also provided funding for continue commuter ferry services; participated in modified work schedules; initiated miscellaneous improvements to encourage bicycle use; and modified zoning regulations to reduce parking requirements for hotels that encourage alternative modes of transportation. Examples include providing complimentary shuttle services to airport, train station and other activity centers; complimentary transit tickets to customers and employees; free use of bicycles; and for employees, bicycle racks, shower and locker facilities. Most recently, the City has been working with SANDAG and the Navy to implement a commuter marketing plan.	Transportation Demand Management Plan via the Traffic Advisory Committee. Elements of such a plan would include commuting, parking, and traffic mitigation options.
9.57	34-22	City of Coronado	The Navy recently installed count stations at NASNI main gate. **The City requests that the Navy install permanent count stations at the proposed Entry Control point for the Coastal Campus as well as at the three controlled gates and intersections located by Naval Amphibious Base. The count data should be provided to the City on at least a quarterly basis.** The data collection will provide the City, Caltrans, and the Navy with more information to understand traffic levels and intensities at each of the existing and proposed sub-bases within Naval Base Coronado (NBC), as well as "filed verify" anticipated traffic patterns. If traffic patterns and volumes contained within the EIS are determined to be faulty, the Navy should undertake further traffic volume reduction measures or traffic circulation improvements.	The Navy will consider installation of permanent vehicle count stations. If installed, vehicle count stations would likely only be considered at the proposed Coastal Campus Entry Control Point with the selection of any of the three development alternatives (Alternative 1, 2, or 3) and at selected NAB Coronado gates for Alternative 3.
9.58	34-23	City of Coronado	Page 2-6 notes that a temporary northern access would be provided until a permanent northern entry control point can be constructed. It notes an acceleration and deceleration lane may be required both northbound and southbound	The proposed Entry Control Point would be fully constructed, including signalization, in 2017. An interim north gate access would be established to handle all Building 99 demolition traffic, initial construction traffic, and initial postconstruction traffic. The Entry

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			along SR 75, and these improvements would be within the Caltrans SR-75 right-of-way. Clarify at what stage the northern access signalized intersection would be implemented. It is not clear whether a 'temporary' intersection would be constructed followed by a more permanent intersection or if one-time set of signalized improvements would occur at this location. **The City requests that the intersection be constructed as a first priority for the project. The traffic signal and control entry gate improvements (P947) for Silver Strand Highway and Hooper Blvd. must be completed prior to any increased activity at the unimproved Hooper entrance and that only one set of improvements occur.** The intersection and entry point should be designed in such a manner so that at no time does the level of service fall below "C".	Control Point would be designed to provide adequate traffic queuing within the Coastal Campus.
9.59	34-24	City of Coronado	Page ES-5: Any and all signal improvements or installations should be fully funded by the Federal Government. The "joint funding approach" should not be recommended as described in the Executive Summary, page v, Implementation of Potential Improvements	The Navy would fund the off-site traffic improvements identified in the EIS through the Defense Access Road program.
9.60	34-25	City of Coronado	Page ES-19 Cumulative Impacts, line 18 should state that the project will have significant impacts (especially to local roads in Imperial Beach) if the signalized intersection (P947) is not constructed.	The Entry Control Point would be constructed; therefore, providing statements regarding potential impacts without this improvement would be inaccurate.
9.61	34-26	City of Coronado	Page 3.9-38 and 7-1: NBC Coastal Campus Internal Circulation states that the internal circulation would not result in any significant on-base or off-base traffic impacts, and that adequate queuing and storage lengths will be provided. Does this account for security screenings at the ECP (Entry Control Point)? What rate of vehicles entering the base from the ECP was used to determine the queuing capacity on base property (is this the average rate of entry?), and how does the queuing space on base property relate to the queuing space in the right and left turn pockets off of SR-75? Figure 2-4 of the EIS provides a diagram of the Entry Control Point and SR-75 Improvements. The Entry	The queuing analysis was based on simulations of the system to account for security screenings and platooning of traffic from the adjacent intersection. The average rate of entry was based on one guard per lane using handheld checking, which averages 325 vehicles per lane. While 500 feet is recommended in the EIS for spacing between the signal and the Entry Control Point, this distance would be verified during the design stage of the Entry Control Point.

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			Control Point is depicted approximately 300 feet east of the existing Hooper Boulevard gate entrance; however, the diagram notes "Security Gate Location, operation and configuration to be determined." In order to avoid impacts on SR-75, the Entry Control point must be setback at a minimum distance as depicted in the Figure along with data to support that the queuing length is adequate on-base to avoid impacts on SR-75.	
9.62	34-27	City of Coronado	Page 4-42 Assessment of Proposed Action – Evaluation without a New Entry Control Point: The City of Coronado is concerned if construction traffic is accessing the base via Hooper Boulevard without the use of a traffic signal either temporary or permanent since both construction scenarios have traffic entering the campus on Hooper Boulevard. This could cause significant back-ups/impacts on SR-75 with construction vehicles turning into the base from the northbound lanes and vehicles in the southbound lanes decelerating to turn right into the campus. The EIS does not adequately address the combined traffic impacts along SR-75 at Hooper Boulevard when the new intersection will be utilized for both base personnel and construction activities to ingress/egress the site. It should be pointed out the report states all construction traffic will access the site via Palm Avenue (Imperial Beach) yet multiple tales, including table 3.9-7 appear to indicate temporary impacts due to construction at intersections within Coronado. This contradiction should be corrected/addressed.	The Navy is working with Caltrans to establish appropriate traffic control management at the interim gate at the Hooper Boulevard entrance until the proposed Entry Control Point is fully constructed. The Navy is also able to establish traffic routes for the contractor. The traffic analysis was revised to correct/address the contradiction noted.
9.63	34-28	City of Coronado	Page 2-23 Traffic and Access Improvements: The EIS does not discuss alternatives to the proposed intersection providing access to the new Entry Control Point. The EIS should identify and analyze alternatives to providing access via a control intersection. Alternatives could include a flyover or an underpass/tunnel.	The Navy would prepare an Intersection Control Evaluation per Caltrans standards to evaluate alternative options besides a traffic signal. Based on the information known at this time, construction of a flyover or tunnel would not substantially improve traffic flow and would require additional land in an area known for sensitive cultural and natural resources, and would add a significant visual obstruction to a designated Scenic Highway. Thus, the Navy will not consider a flyover or an underpass/tunnel as alternative

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				methods for providing access to the proposed Entry Control Point.
9.64	34-41	City of Coronado	Why is the proposed entrance/security road in such close proximity to the existing Scenic Highway? The new road way, vertical light poles, and other facilities along with new vehicular activity should be moved further south to minimize the visual obstructions this new four-lane roadway and other improvements would have along the State Designated Scenic Highway Corridor.	The proposed Entry Control Point is located in this location because that is where the existing Hooper Boulevard access currently exists and because it provides the safest ingress/egress to the Coastal Campus. This location provides the necessary line-of-sight safety distance to oncoming traffic. In addition, the access cannot be moved farther south due to the existing berm and sensitive natural and cultural resources associated with it.
9.65	34-58	City of Coronado	Page 7-23 Temporary: EIS suggests using a flagger (or temporary traffic signal) for a temporary basis until the permanent signal is installed. The use of a flagger controlling traffic on a state highway with a posted speed limit of 65 mph seems very dangerous. Please address this issue.	The Navy is working with Caltrans to establish appropriate traffic control management at the interim gate at the Hooper Boulevard entrance until the proposed Entry Control Point is fully constructed.
9.66	34-59	City of Coronado	Page 3.9-4: The description of Silver Strand Blvd. state that the speed limit is 65 mph; however, there are portions near the Village area as low as 35 mph (for example, just south of SR-75/Pomona intersection).	The text in the Final EIS has been revised.
9.67	34-60	City of Coronado	Page 7-4 Queuing Intersection Analysis: EIS used Caltrans design criteria for 55 mph and the posted speed limit is 65 mph; therefore, the analysis should be completed using the correct design criteria.	The design would be verified with Caltrans during the improvement plan process.
9.68	34-61	City of Coronado	Page 7-4 Queuing Intersection Analysis: Queuing analysis was performed with the concept layout and some delays associated with ECP operations on Hooper Blvd. What do these delays include? What level of security screening is taken into account?	The queuing analysis was based on simulations of the system to account for security screenings and platooning of traffic from the adjacent intersection. The average rate of entry was based on one guard per lane using handheld checking, which averages 325 vehicles per lane. While 500 feet is recommended in the EIS for spacing between the signal and the Entry Control Point, this distance would be verified during the design stage of the Entry Control Point.
9.69	34-62	City of Coronado	Page 3.9-29, Figure 3.9-8 Traffic Growth Zones: Traffic Growth Zones show a 24% growth rate in the Silver Strand Zone (including NAB area) and a 1% growth rate in Coronado Zone (NASNI not included). If the Silver Strand Zone accounts for NAB (and we are assuming that most of the growth comes from NAB rather than City growth), it seems like traffic	The growth rates were determined using SANDAG traffic model forecasts. Known growth at NAB Coronado was included in the calculations.

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			volumes in the Coronado Zone should account for growth rates of NASNI as the Coronado Zone is directly affected by NASNI growth. If not the whole Coronado Zone, at minimum, NASNI growth, should be reflected on Third and Fourth Streets. Show how these percentages were calculated.	
9.70	34-63	City of Coronado	Page 4-2, Table 4-1 Past/Past/Reasonable Foreseeable Future Projects in the NBC Coastal Campus EIS ROI: City of Coronado Projects need to be updated (see most recent approved CIP dated June 2014). This should also include a project that will reconfigure the signal timing to improve the LOS at Tenth Street and Orange Avenue.	The text in the Final EIS has been revised.
9.71	34-64	City of Coronado	Appendix D-2 Draft Traffic Impact Study: Page 3-6 Existing Conditions Geometrics: Intersection #4 – eastbound Fourth Street is shown as three through lanes and one dedicated right turn lane; the left through lane also allows drivers to turn left.	The analysis and text in the Final EIS has been revised as appropriate.
9.72	34-65	City of Coronado	Page 3-7 Existing Conditions Geometrics: Intersection #16 – on Coronado Cays Blvd. there is a yield when turning right onto SR-75, not a free right-turn as shown.	The analysis and text in the Final EIS has been revised as appropriate.
9.73	34-66	City of Coronado	Assessment of Proposed Action – Alt. 1 Trip Data, Figure D-3a: Alternative 1 trip assignment does not include a change in the eastbound vehicles on Fourth Street at Glorietta Blvd. (intersection #1), therefore it does not reflect a negative net changes in the combined trip assignments (NAB and SSTC-South) for alternative 1; therefore, the effect of alternative 1 on vehicles heading outbound on the bridge (both AM and PM peak hour) would increase by 18/155. Please confirm this calculation.	The analysis and text in the Final EIS has been revised as appropriate.
9.74	34-67	City of Coronado	Why are the trip assignments for the split between Orange Avenue and Pomona Avenue different for the trip assignments for NAB and SSTC-South?	The analysis assumed more traffic along Orange Avenue for the increase in traffic related to SSTC-South to establish a more conservative evaluation.
9.75	34-68	City of Coronado	Traffic Analysis Appendix C – CVN Forecast: Appendix does not show how raw data was manipulated to show 1 CVN in port if there weren't any carriers in port at the time of the counts. This should be included as part of the document.	The text in the Final EIS has been revised.

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9.76	34-69	City of Coronado	Traffic Related to Population/Job forecasts (CDD) Page 1-3: Trends and Historical Data of Traffic Appendix: The report states that the population went from 27,000 (1990) to 19,000 (current) (30% change) with the population estimated to increase to 31,000 by 2030. In comparison, SANDAG's 2050 Subregional Growth Forecast shows 2008 as 23,030; 2020 as 26,348; 2035 as 27,210; and 2050 as 27,937. Please address this discrepancy as the projections developed by SANDAG apparently included input from the Military within the region.	The text in the Final EIS has been revised.
9.77	34-70	City of Coronado	Also, regarding SANDAG's growth forecasting and planning efforts, the 2050 Growth Forecast shows no change in employment density and jobs/acre for South Coastal Campus at the Naval Radio Receiving Facility. SANDAG shows the change in jobs population from 2008 at 27,994 up to 33,251 in 2050 representing a 0.4% annual increase in jobs. Has the Navy been participating in the forecasting for the region? It appears SANDAG and the Navy's planned improvements for the NBC have not been reflected in the regional estimates or else the mapping would have reflected the 3,000+ personnel located at this facility. Also, the number does not include the civilian personnel that may be working at the facility.	The Navy commits to providing SANDAG with updates of changes to major land use and/or employment so the changes can be incorporated into regional planning efforts. The Navy included SANDAG in the EIS scoping notification process.
9.78	34-71	City of Coronado	Related to these points, page ES-19 states under environmental impacts, *"Traffic generation associated with military and civilian projects that are completed, in progress, or planned for development in Coronado and Imperial Beach have been factored into San Diego Association of Governments traffic forecasts."* The City questions the accuracy of this statement because none of their other regional growth forecasts reflected any development and increased intensification of SR-75 and roads through Imperial Beach to Interstate 5.	The text in the Final EIS has been revised to clarify this statement. The Navy will provide SANDAG with information to appropriately capture the traffic in future model runs.
9.79	34-72	City of Coronado	Proposed Future Left-Turn Restrictions From Fiddler's Cove Marina: The EIS discusses implementation by 2040 of restriction on left turns out of Fiddler's Cove drive at Silver Strand Blvd. The City has determined additional environmental review and analysis of	The text in the Final EIS has been revised.

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			alternatives should be completed prior to implementation of any traffic control measures implemented at this location. The EIS should be revised to document that this intersection would be evaluated under separate environmental review to determine when, if, and what type of traffic control safety measures are necessary at this location.	
9.80	41-1	Knox, J.	I'm concerned with the proposed traffic conditions caused by increased use of the south training base. The effect on Palm Avenue West from Rainbow to 2nd Street in Imperial Beach is a particular concern with the proposed increased use of South Bay at Silver Strand Boulevard. The traffic study is comprised of 2424 pages of what should be termed, "educated guesses," about the traffic conditions. The north gate alternative is the only solution.	The proposed Entry Control Point would be fully constructed, including signalization, in 2017. An interim north gate access would be established to handle all Building 99 demolition traffic, initial construction traffic, and initial postconstruction traffic. The Entry Control Point would be designed to provide adequate traffic queuing within the Coastal Campus.
9.81	42-1	Pilgrim, D.	My comments have to do with parking. This looks like a very large installation, which means, from experience, there will be a lot of one person per car traffic, which means parking lots will take up an enormous amount of space. My strong suggestion is that the Navy charge for parking and use that income to promote, and even underwrite vanpools and carpools.	The Navy will address a Transportation Demand Management Plan via the Traffic Advisory Committee. Elements of such a plan would include commuting, parking, and traffic mitigation options.
9.82	43-5	McCoy, M.	Another thing that I'm really worried about for our community is, transportation. You've got around 3,032 extra vehicles. And so I would like to encourage some kind of consideration for a serious people moving system rather than single auto traffic, so a mass transit type of opportunity. So that means if you had a parking facility offsite at North Island, then you could bring the majority of that workforce on the mass transit of some type because you're going to have parking problems. So please take that into serious consideration.	The Coastal Campus would not result in an additional 3,032 extra vehicles to the area since personnel/military members would be relocating from NAB Coronado (i.e., within the area). The Navy will address a Transportation Demand Management Plan via the Traffic Advisory Committee. Elements of such a plan would include commuting, parking, and traffic mitigation options.
9.83	43-7	McCoy, M.	The road problems are going to be more of an issue. And I have encouraged our city to cut the width of the 75, not widen it, so it discourages traffic. We did that on the west end of Palm Avenue, and it worked well. People slowed down, and they've come to like it. So I say shrink	The Navy will address a Transportation Demand Management Plan via the Traffic Advisory Committee. Elements of such a plan would include commuting, parking, and traffic mitigation options.

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			highway 75 rather than widen it, and begin to move toward some type of mass transportation rather than single car transportation. With the cost of fuel, the downside of fuel, the maintenance on cars to the individual, and then the public has to absorb the cost of environmental deterioration and more cars. So any way, to get away from that would be something I would like to see come to the top of the list.	
9.84	46-1	Moore, D.	Traffic exiting the facility would have to use the existing route unless some way of exiting back to the south bound highway 75 could be merged. Existing road improvements with the a stop light at Rainbow and Palm Avenue to aid turning traffic would be needed since traffic in that area of town is at the maximum capacity for present conditions, plus side streets from 3rd to Rainbow are used by school traffic. Traffic exiting the facility is the biggest area of concern, work / training hours could be staggered to allow for smother flow exiting and merging into after noon work hour traffic.	The proposed new Entry Control Point at the northern portion of SSTC-South would provide the primary ingress/egress for the Coastal Campus. The Navy has committed to limiting Coastal Campus traffic volumes at the South Gate to current traffic volumes and to restrict use of the South Gate hours of operation. The Navy will address a Transportation Demand Management Plan via the Traffic Advisory Committee. Elements of such a plan would include commuting, parking, and traffic mitigation options.
9.85	49-1	Kravitz, E.	I will submit a copy of my comments with graphics to Teresa Bresler via Certified Letter since I cannot personally attend the meetings.	Thank you for your comment. The Navy appreciates your efforts trying to establish new transit options to the area.
9.86	51-1	Knox, J.	I am concerned with the increased traffic conditions to be imposed on the northwest area of Imperial Beach both during the construction and increased use of the South Training Base. The Traffic Study comprises 2,424 pages of what should be termed “educated guesses” about future traffic conditions during the construction and increased use after the final build out of the South Training Center. There are numerous conclusions in this gigantic study that do not reflect current traffic conditions, both in and out of Imperial Beach, accurately. I do not have the time or the inclination to write a large enough thesis to address them all. I will concern myself only with traffic on Highway 75 from 9th street north to Seacoast Blvd.	The proposed new Entry Control Point at the northern portion of SSTC-South would provide the primary ingress/egress for the Coastal Campus. The Navy will address a Transportation Demand Management Plan via the Traffic Advisory Committee. Elements of such a plan would include commuting, parking, and traffic mitigation options.
9.87	51-2	Knox, J.	Currently there is only one entry to the Special Forces SEAL Headquarters and training area located on the Southwest side of Highway 75 within the Naval Amphibious Base. Traffic	The proposed Entry Control Point would be fully constructed in 2017 and would be designed to provide adequate traffic queuing within the Coastal

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			currently backs up on North Highway 75 in the mornings past the obstacle course and sometimes further while trying to make the left turn into the base. The turn is controlled by a stoplight with a left turn signal and lane. As the South Training Center is phased into use, traffic will have to turn left at the new North Entrance from Highway 75. The same back up with continue to exist, it will only be moved to a new location. To try to prevent being caught in this backup traffic will soon learn to use Palm Avenue as an alternative because of the access provide by the Silver Strand Blvd. gate. Your report suggests that increased usage of the base as construction allows training to increase will not impact the traffic at the current South Gate (Executive Summary, page ES-15, lines 13 through 33)	Campus for security clearance checks. The Navy has committed to limiting Coastal Campus traffic volumes at the South Gate to current traffic volumes and to restrict use of the South Gate hours of operation. The proposed Coastal Campus would not increase outdoor training.
9.88	51-3	Knox, J.	Your mitigation suggestions for increased traffic on Palm Avenue, west of 9th street only includes “restriping” on Rainbow Dr. at the Palm Avenue intersection. No mention is made of the left turn signal on Highway 75 between 9th street and 7th street. Currently traffic at this signal controlled left turn back up past the two lanes provided for cars to turn. Currently Palm Avenue from 7th street West has one through lane in each direction. There is a four way stop at Palm and 3rd street, a 3 way stop at 2nd street, and a 3 way stop at Palm and Seacoast Dr. with a duel left turn through lane plus a dedicated right turn lane. Traffic wishing to use the current South Gate must turn right (if going west), or left (if going east) from Palm Avenue to Silver Strand Blvd. Any traffic leaving the base currently must stop at the intersection of Silver Strand Blvd. and Palm and then negotiate a left or right turn onto Palm.	The Navy will address a Transportation Demand Management Plan via the Traffic Advisory Committee. Elements of such a plan would include commuting, parking, and traffic mitigation options. As is stated in the EIS, the traffic volumes in and out of the southern gate would not increase. The Navy would monitor traffic at this location and incorporate measures as necessary to ensure these volumes do not increase. Pedestrian and bicycle traffic would be encouraged. The Navy recently improved the South Gate and relocating the gate is not part of the Proposed Action. The Navy has committed to limiting Coastal Campus traffic volumes at the South Gate to current traffic volumes and to restrict use of the South Gate hours of operation.
9.89	51-4	Knox, J.	Your report suggests a new light at both 3rd and Palm, and Silver Strand Blvd. and Palm will be needed. Currently traffic backs up on Palm Avenue both east and west at 3rd street during morning and evening traffic. (No mention is made of the traffic that must use this intersection to get to West View School which is located at the northern end of 3rd street) Traffic also backs up at the	The proposed new Entry Control Point at the northern portion of SSTC-South would provide the primary ingress/egress for the Coastal Campus. The Navy has committed to limiting Coastal Campus traffic volumes at the South Gate to current traffic volumes and to restrict use of the South Gate hours of operation. The Navy will address a Transportation

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			Silver Strand Blvd. and Palm intersection after current training evolutions end. The times for these backups vary with the training schedule. Currently some cars exiting the South Training Base try to avoid this backup by turning right on Carnation, Calla or Citrus Avenues. They proceed west to Seacoast, turn south on Seacoast, and then east on Palm.	Demand Management Plan via the Traffic Advisory Committee. Elements of such a plan would include commuting, parking, and traffic mitigation options.
9.90	51-5	Knox, J.	As training and traffic ramp up, use of the South Gate will increase traffic on Palm Avenue from the left turn signal west of 9th street to the Silver Strand Blvd. south gate. Silver Strand Blvd. is a short, residential street, not designed to absorb the increase in traffic that will occur as training increases. Currently in the mornings traffic backs up on Silver Strand Blvd. to Carnation Avenue and sometimes more. Increased use of the base as construction is completed will only increase traffic at the current South Gate. The mitigation measures suggested for 3rd and Palm, Silver Strand Blvd. and Palm, and Silver Strand Blvd. are not practical and will increase traffic congestion on Palm Avenue between 7th street and Seacoast Blvd. A stop light at 3rd street and Palm a stop light at Silver Strand Blvd. and Palm will increase traffic congestion. The suggestion that Silver Strand Blvd. can be widened is ludicrous. How could this be accomplished on a street that is currently one lane in each direction and residential? Nowhere in the report is there a mention of how to prevent increased use of the South Gate and Silver Strand Blvd. except the suggestion that the new North Gate will prevent any increased use.	The Navy will address a Transportation Demand Management Plan via the Traffic Advisory Committee. Elements of such a plan would include commuting, parking, and traffic mitigation options. As is stated in the EIS, the traffic volumes in and out of the southern gate would not increase. The Navy would monitor traffic at this location and incorporate measures as necessary to ensure these volumes do not increase. Pedestrian and bicycle traffic would be encouraged. The Navy recently improved the South Gate and relocating the gate is not part of the Proposed Action. The Navy has committed to limiting Coastal Campus traffic volumes at the South Gate to current traffic volumes and to restrict use of the South Gate hours of operation. The proposed Coastal Campus would not increase outdoor training.
9.91	51-6	Knox, J.	The report also makes no mention of the increased tourist traffic coming to Imperial Beach because of the new hotel and the possibility of another beach front hotel being built. There is no mention of the possible traffic and economic impacts that will come with the development of the south side of Palm between 9th and 7th streets. There is also no mention of who will pay for increased costs of implementing and maintaining any traffic mitigation and increased waste water requirements. The report's	The analysis included traffic growth through Imperial Beach and has determined mitigation measures to address the project's direct and cumulative impacts on the transportation network. The traffic forecasts account for growth in Imperial Beach over the next 10 to 30 years. Although it may not discuss specific projects, the increase in volumes accounts for development projects that are planned.

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			conclusions that there will be little or no impact on Imperial Beach by the new training base are wrong and should be re-examined.	Section 3.10.2.3 of the EIS addresses the economic impacts of the proposed Coastal Campus.
9.92	51-7	Knox, J.	The only practical way to prevent new, unacceptable traffic congestion on Palm avenue from 7th street west is to build the new north entrance as outlined in the report and permanently close the current south gate entrance from Silver Strand Blvd during and after construction to prevent significant impacts on residents of Imperial Beach.	The proposed new Entry Control Point at the northern portion of SSTC-South would provide the primary ingress/egress for the Coastal Campus. The Navy has committed to limiting Coastal Campus traffic volumes at the South Gate to current traffic volumes and to restrict use of the South Gate hours of operation. The Navy will address a Transportation Demand Management Plan via the Traffic Advisory Committee. Elements of such a plan would include commuting, parking, and traffic mitigation options.
9.93	52-2	Smith, P.	Relative to putting ships, jets, armor and/or other conventional force infrastructure here, the environmental impact of what the SEALS are proposing would be minimal. And the proposed new main entrance being north of town on 75 should mean that the new facility would not result in “rush hour” traffic flows through the Imperial Beach neighborhoods.	Thank you for your comment.
9.94	55-2	Rogerson, C.	The increased traffic during construction as well as when full capacity use will be reached is also of great concern. Traffic South to North on SR-75, as well travel South to Imperial Beach to reach the 5 Freeway on-ramps will be greatly increased and rush hour morning traffic will be slowed to a crawl. North bound traffic along SR-75 from Coronado Cays and Imperial Beach to the Village is ‘stop and go’ now and will only get worse. Pollution will be increased greatly from idling automobiles and motorcycles traveling along SR-75 as well as lining up to enter and leave the proposed new Coronado Campus. Please consider an off-site or remote access Campus Entry Gate. Please consider using mandatory Van Pools and bussing personnel to the Campus from an off-site parking facility.	The Navy will address a Transportation Demand Management Plan via the Traffic Advisory Committee. Elements of such a plan would include commuting, parking, and traffic mitigation options.
9.95	57-1	Threlkeld, S.	We are very supportive of the military mission here in Imperial Beach, and are supportive of the proposed project. However we also are mindful	The proposed Entry Control Point would be fully constructed, including signalization, in 2017. An interim north gate access would be established to

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			of retaining the existing character of Imperial Beach as much as possible as it benefits both us and the military. We are supportive of the "North Only" alternatives, as any significantly additional traffic at the existing Silver Strand Boulevard entrance would be a drastic impact to the community. We would therefore be opposed to significant additional traffic here, especially when there are viable avoidance alternatives available.	handle all Building 99 demolition traffic, initial construction traffic, and initial postconstruction traffic. The Entry Control Point would be designed to provide adequate traffic queuing within the Coastal Campus.
9.96	57-2	Threlkeld, S.	Slight increases of traffic along this street might be mitigated favorably by making Citrus Avenue a one-way street (heading west), and relieving some of the cross traffic on Silver Strand Boulevard.	Thank you for your comment. The Navy is implementing a new Entry Control Point along SR-75 to avoid increasing traffic along the residential and school areas of Imperial Beach.
9.97	62-2	Downey, C.	First, the EIS assumes that the project EIS is only required to analyze the additional of new traffic in Coronado resulting from the consolidation of activities in the proposed project. The EIS denies there will be an increase in vehicles entering and exiting Coronado as a result of the project. While the City of Coronado's comments suggest the failure to address traffic impacts is because of an inappropriate analysis of the cumulative impacts of the project with the earlier Naval Base Coronado projects, I also believe there is another fundamental error in the EIS traffic analysis. The National Environmental Policy Act ("NEPA") requires Federal Agencies to analyze the impacts from any new proposed projects. Existing conditions form the basis for the No Project Alternative under NEPA. In essence environmental impact analysis is not required on conditions that are assumed to have already completed environmental review or to predate NEPA enactment. However the changes proposed in Alternatives one and two: consolidating and relocating Naval Special Warfare ("NSW") facilities, operations and personnel at a new location within NBC, require analysis of all traffic that arises as a result of Naval Special Warfare locations with NBC. While it is true that some Naval Special warfare activity existed pre-NEPA at the then Naval Amphibious Base Coronado, the traffic impact from NSW personnel arriving and departing NBC was never	The analysis performed in the EIS is focused on the proposed NBC Coastal Campus and the relocation of existing personnel. It establishes an existing condition in 2012 that captures any traffic already in place during that year.

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			analyzed or mitigated since the passage of NEPA. The proposed relocation of operations, regardless of whether it is an increase in personnel, is a new project for purposes of NEPA, and should be fully analyzed as if they were all new. The traffic impacts from all NSW operations has never been broken out of the other military operations at the NBC complex to determine their impacts separate from the Air or other operations.	
9.98	62-3	Downey, C.	Second, whether the consolidation or merely the increase in tempo creates additional traffic impacts to the Coronado area, increased vehicular traffic could be mitigated to decrease the impact. The EIS analysis stating that regardless of new impacts the existing levels of service are at failure levels so mitigation would not be able to bring the level of service to acceptable levels is not correct. There are several possible traffic mediation opportunities that were not analyzed and haven't been tried at NBC.	The Navy will address a Transportation Demand Management Plan via the Traffic Advisory Committee. Elements of such a plan would include commuting, parking, and traffic mitigation options.
9.99	62-4	Downey, C.	Regardless of whether the analysis should have been more thorough under the cumulative project analysis of the analysis of the existing traffic section, the Navy should require analysis of the following traffic and noise reduction measures lessen the impact on Coronado: 1. Handing every sailor or civilian checking into a Navy command the application and information brochure about the joint Navy-SANDAG carpool and mass transit subsidies in the I-commute program. A recent joint effort by NBC and the City of Coronado showed that many Navy personnel are not aware of the carpooling incentives available to them. This should be required training at check-in and annually thereafter.	The Navy will address a Transportation Demand Management Plan via the Traffic Advisory Committee. Elements of such a plan would include commuting, parking, and traffic mitigation options.
9.100	62-5	Downey, C.	2. Establish up front preferred parking at EVERY command for carpools.	The Navy will address a Transportation Demand Management Plan via the Traffic Advisory Committee. Elements of such a plan would include commuting, parking, and traffic mitigation options.
9.101	62-6	Downey, C.	3. Allow individual employees the right to request a varied start time to allow for carpooling or use of mass transit options with limited	The Navy will address a Transportation Demand Management Plan via the Traffic Advisory Committee. Elements of such a plan would include

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			schedules such as Ferry, Bus, etc. Although the Navy has different shift start times for the civilians working at NADEP, most other commands do not allow later or earlier start times on an individual basis but it could allow greater carpooling and flexibility for Navy personal in addition to decreasing noise and traffic at the peak times.	commuting, parking, and traffic mitigation options.
9.102	62-7	Downey, C.	4. Work with the City of Coronado Business Improvement District to underwrite the free bus throughout Coronado during the winter months, so that Navy personnel could hop on the bus at one NBC location and get off at the next for free.	The Navy will address a Transportation Demand Management Plan via the Traffic Advisory Committee. Elements of such a plan would include commuting, parking, and traffic mitigation options.
9.103	62-8	Downey, C.	5. Command Morale Welfare and Recreation Committees could hold contests for quietest car/motorcycles at each command.	The Navy will address a Transportation Demand Management Plan via the Traffic Advisory Committee. Elements of such a plan would include commuting, parking, and traffic mitigation options.
9.104	62-9	Downey, C.	6. NBC Coronado could institute a Navy bike share program like they have in Canada for use on Coronado to decrease vehicle noise and encourage physical activity for a healthier lifestyle for all navy personnel, Active Duty and civilian; and	The Navy will address a Transportation Demand Management Plan via the Traffic Advisory Committee. Elements of such a plan would include commuting, parking, and traffic mitigation options.
9.105	62-10	Downey, C.	7. Revisit dedicated buses to military housing. Rather than use big expensive MTS buses, consider a target Van Pool service that would be free to Housing residents but paid for by Navy and I-commute subsidies. Although the first effort did to have high participation, neither did the Coronado BID free summer program in its first year. By the second year when people knew it would be running every day at the same time, a regular clientele built up. The same could happen for a shuttle from nearby military housing. Why not start with one from Chief housing on Coronado.	The Navy will address a Transportation Demand Management Plan via the Traffic Advisory Committee. Elements of such a plan would include commuting, parking, and traffic mitigation options.
9.106	63-1	Denny, B.	The purpose of this comment is to support the concept of Remote Front Gate (RFG).	The Navy will address a Transportation Demand Management Plan via the Traffic Advisory Committee. Elements of such a plan would include commuting, parking, and traffic mitigation options.
9.107	63-2	Denny, B.	(1) It Enhances Evacuation During Disasters. Clogging up the Navy	The Navy will address a Transportation Demand Management Plan via the

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			Coastal Campus with vehicles reduces the chances of survival for Navy personnel and residents of Coronado Village, Coronado Shores, Coronado Cays and Imperial Beach. Whether it is a natural disaster such as fire, earthquake, tsunami, aftershock, or a man-made disaster, adding vehicles to the Navy Coastal Campus complicates evacuations. In the interest of public health and safety, RFG should be the top priority of the Navy, Coronado city, Imperial Beach and all other controlling agencies.	Traffic Advisory Committee. Elements of such a plan would include commuting, parking, and traffic mitigation options.
9.108	63-3	Denny, B.	(2) It's the Right Thing to Do. The US Navy, Coronado city, Imperial Beach, SANDAG and other interested agencies should make haste to bring the RFG to our area. Smart planning in overcrowded coastal towns requires, at a minimum, the reduction in the number of vehicles. Reduction in the number of vehicles is the essence of RFG.	The Navy will address a Transportation Demand Management Plan via the Traffic Advisory Committee. Elements of such a plan would include commuting, parking, and traffic mitigation options.
9.109	63-4	Denny, B.	(3) It Reduces the Number of Vehicles. RFG has the potential to reduce the number of vehicles by 95%. This is a significant concept that has been overlooked for too long.	The Navy will address a Transportation Demand Management Plan via the Traffic Advisory Committee. Elements of such a plan would include commuting, parking, and traffic mitigation options.
9.110	63-5	Denny, B.	(4) It Brings Air Quality Benefits. As is common knowledge, the San Diego area fails to meet federal air quality standards. By reducing the number of vehicles, air quality will improve and along with it, public health and safety. San Diego will have the potential to meet and exceed air quality standards. The US Navy, Department of Defense, and SANDAG should seize this opportunity with the RFG.	The Navy will address a Transportation Demand Management Plan via the Traffic Advisory Committee. Elements of such a plan would include commuting, parking, and traffic mitigation options.
9.111	63-6	Denny, B.	(5) It's Cost-Effective. With minimal taxpayer investment, involving remote parking and transporting Naval employees to the Navy Coastal Campus, the RFG is highly cost-effective.	The Navy will address a Transportation Demand Management Plan via the Traffic Advisory Committee. Elements of such a plan would include commuting, parking, and traffic mitigation options.
9.112	63-7	Denny, B.	(6) It Reduces the Potential for Fraud, Waste & Abuse of Public Resources. Taxpayer watchdogs know that government capital	The Navy will address a Transportation Demand Management Plan via the Traffic Advisory Committee. Elements of such a plan would include

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			projects, at all levels, are riddled with the potential for fraud, waste and abuse of public resources. History proves that fraud, waste and abuse occurs through discovered and undiscovered overcharges, change work orders, bait-and-switch of materials, and so forth. The list goes on and on.	commuting, parking, and traffic mitigation options.
9.113	63-8	Denny, B.	For all the above reasons, I strongly recommend that RFG is incorporated into the planning process.	The Navy will address a Transportation Demand Management Plan via the Traffic Advisory Committee. Elements of such a plan would include commuting, parking, and traffic mitigation options.
9.114	1-10	Glass, C.	It is understandable that during the initial phases of construction a ground level entrance is more convenient and easier to establish, however the possibility of a flyover further south near the small bluff should be given serious consideration. This project requires the utmost creativity in its design and execution. The residents of Coronado and Imperial Beach deserve the most creative solutions to providing what the Navy needs in terms of structures and traffic patterns which protect to the greatest extent possible the current living environment.	The Navy would prepare an Intersection Control Evaluation per Caltrans standards to evaluate alternative options besides a traffic signal. Based on the information known at this time, construction of a flyover or tunnel would not substantially improve traffic flow and would require additional land in an area known for sensitive cultural and natural resources, and would add a significant visual obstruction to a designated Scenic Highway. Thus, the Navy will not consider a flyover or an underpass/tunnel as alternative methods for providing access to the proposed Entry Control Point.
9.115	2-1	Meneses, O. (MTS)	MTS requests that the following infrastructure be included with the project so that we may be able to provide as effective bus service as practicable to meet future commute needs of NBC uniformed personnel and civilian employees. A bus stop pair (one stop in each direction) located at the controlled intersection on SR-75 at the new main entrance to the Silver Strand Training Complex South. Ideally these bus stops would be “pull-outs” located far side (immediately following the intersection in the direction of travel). Specifications for the bus stops can be found in the MTS Designing for Transit Manual, located on our website here: http://www.sdmts.com/Pianning/documents/DesigningForTransitManual.pdf Locating the bus stops as pull-outs on SR-75 can be superseded by a different configuration if the Navy and MTS in consultation agree upon a preferred alternative location or	The Navy commits to providing MTS bus stops at the new intersection to provide transit options to the site and would coordinate with MTS on the exact location during the design of the intersection improvements.

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			configuration.	
			SOCIOECONOMICS AND ENVIRONMENTAL JUSTICE	
10.1	5-2	Cole, R.	Will the construction crews employ Imperial Beach citizens? A percentage?	It is assumed that the design and construction work on the proposed Coastal Campus facilities and infrastructure would be by civilian firms that would largely draw their employees from a labor pool within San Diego County, but hiring decisions would be within the purview of the contracting entities, not the government.
			PUBLIC HEALTH AND SAFETY	
11.1	8-1	Clark, T. (IB Public Safety)	There is no Federal fire department first responder engine company to provide paramedic, FF's, and ALS ambulance services to this Coastal Campus. Fire departments have dropped the boundaries/jurisdiction so that the closest first responder engine company and ALS ambulance will be responding to incidents (medical AIDS, fires, T.A.'s ringing alarms, etc.), which will impact the City of Imperial Beach.	Based on recent meetings between the Navy and the City of Imperial Beach regarding emergency services, the Navy determined that fire protection and emergency services improvements would be needed at the NBC Coastal Campus. These improvements could include one or more of the following: (1) constructing a new fire station with a structural pumper, an ambulance, and associated staffing, (2) establishing a temporary fire station with firefighting apparatus, an ambulance, and staffing, (3) staging firefighting equipment including an ambulance at SSTC-South, (4) roving firefighting equipment including an ambulance, and (5) obtaining a deviation approval of the DoD Instruction 6055.06. The Navy would continue to work with the Cities of Coronado and Imperial Beach on emergency services with additional potential measures after construction of the initial Coastal Campus facilities.
11.2	8-2	Clark, T. (IB Public Safety)	Imperial Beach would require the implementation of a Fast Response Squad with staff of two FF/PM's paramedics to mitigate the impacts of the additional military personnel who are traveling to the Coastal Campus.	Based on recent meetings between the Navy and the City of Imperial Beach regarding emergency services, the Navy determined that fire protection and emergency services improvements would be needed at the NBC Coastal Campus. These improvements could include one or more of the following: (1) constructing a new fire station with a structural pumper, an ambulance, and associated staffing, (2) establishing a temporary fire station with firefighting apparatus, an ambulance, and staffing, (3) staging firefighting equipment including an ambulance at SSTC-South, (4) roving firefighting equipment including an ambulance, and (5) obtaining a deviation approval of the DoD Instruction 6055.06. The Navy would continue to work with the Cities of Coronado and Imperial Beach on

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				emergency services with additional potential measures after construction of the initial Coastal Campus facilities.
11.3	28-9	Janney, J. (City of IB)	Through existing mutual aid agreements, the City's emergency services will be partly responsible for responding to emergencies along Highway 75 from the Imperial Beach/Coronado city limits to the Coronado Cays entrance. The City notes that the EIS may not adequately address the provision of these services and the mutual aid agreements regarding public safety services that may arise from the proposed Coastal Campus.	Based on recent meetings between the Navy and the City of Imperial Beach regarding emergency services, the Navy determined that fire protection and emergency services improvements would be needed at the NBC Coastal Campus. These improvements could include one or more of the following: (1) constructing a new fire station with a structural pumper, an ambulance, and associated staffing, (2) establishing a temporary fire station with firefighting apparatus, an ambulance, and staffing, (3) staging firefighting equipment including an ambulance at SSTC-South, (4) roving firefighting equipment including an ambulance, and (5) obtaining a deviation approval of the DoD Instruction 6055.06. The Navy would continue to work with the Cities of Coronado and Imperial Beach on emergency services with additional potential measures after construction of the initial Coastal Campus facilities.
11.4	34-30	City of Coronado	The analysis of emergency services including dispatch and medical transport is inadequate. Page 3.12-13 states *"Development of Alternative 1 would result in an increased demand for fire protection due to the new structures and personnel at SSTC-South."* Limited fire protection service is currently provided by Federal Fire responding from Station 14 in Imperial Beach. It is stated in the draft EIS that recent field testing and response times provided data that reasonably identified current response capabilities and provided service as adequate. **Verification of the testing process and a review of the results should be provided to the Coronado Fire Department as the bordering agency that may be significantly affected.**	Based on recent meetings between the Navy and the City of Imperial Beach regarding emergency services, the Navy determined that fire protection and emergency services improvements would be needed at the NBC Coastal Campus. These improvements could include one or more of the following: (1) constructing a new fire station with a structural pumper, an ambulance, and associated staffing, (2) establishing a temporary fire station with firefighting apparatus, an ambulance, and staffing, (3) staging firefighting equipment including an ambulance at SSTC-South, (4) roving firefighting equipment including an ambulance, and (5) obtaining a deviation approval of the DoD Instruction 6055.06. The Navy would continue to work with the Cities of Coronado and Imperial Beach on emergency services with additional potential measures after construction of the initial Coastal Campus facilities.
11.5	34-31	City of Coronado	Based on proximity, Coronado Fire Station 37 is the closest provider for emergency response for structural response and emergency medical service. What procedures are proposed for dispatching emergency response as outlined below?	Based on recent meetings between the Navy and the City of Imperial Beach regarding emergency services, the Navy determined that fire protection and emergency services improvements would be needed at the NBC Coastal Campus. These improvements could include one or more of the following: (1)

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			• Hard line communications will result in Federal Dispatch and Federal units responding through Coronado and or Imperial Beach code 3, and potentially passing Staffed Dire Stations. • Cellular use for initiating a response will result in Coronado PD dispatch and Heartland Fire Dispatch fielding the call with potential responses from city services or transferring the call to the Federal Dispatch resulting in further time delays for service.	constructing a new fire station with a structural pumper, an ambulance, and associated staffing, (2) establishing a temporary fire station with firefighting apparatus, an ambulance, and staffing, (3) staging firefighting equipment including an ambulance at SSTC-South, (4) roving firefighting equipment including an ambulance, and (5) obtaining a deviation approval of the DoD Instruction 6055.06. The Navy would continue to work with the Cities of Coronado and Imperial Beach on emergency services with additional potential measures after construction of the initial Coastal Campus facilities.
11.6	34-32	City of Coronado	The EIS does not appear to contain any discussion or analysis regarding emergency/disaster preparedness plans for NBC Coastal Campus. The EIS should address the emergency preparedness plans for NBC Coastal Campus in the case of an earthquake or other natural disaster.	Section 3.11.1.2 of the EIS addresses Emergency Management and discusses the NBC Installation Emergency Management Plan.
11.7	55-3	Rogerson, C.	The Emergency Evacuation Route from the Coronado Cays, Lowes Hotel, the Silver Strand Elementary School, the State Park, and military housing along the Silver Strand will be seriously impacted. Our route to higher ground, and getting away from earthquake damage and danger will be slower and longer and would make a dangerous situation worse. Again off-site parking of Campus personnel would help mitigate this dangerous emergency situation.	Based on recent meetings between the Navy and the City of Imperial Beach regarding emergency services, the Navy determined that fire protection and emergency services improvements would be needed at the NBC Coastal Campus. These improvements could include one or more of the following: (1) constructing a new fire station with a structural pumper, an ambulance, and associated staffing, (2) establishing a temporary fire station with firefighting apparatus, an ambulance, and staffing, (3) staging firefighting equipment including an ambulance at SSTC-South, (4) roving firefighting equipment including an ambulance, and (5) obtaining a deviation approval of the DoD Instruction 6055.06. The Navy would continue to work with the Cities of Coronado and Imperial Beach on emergency services with additional potential measures after construction of the initial Coastal Campus facilities. Section 3.11.1.2 of the EIS addresses Emergency Management and discusses the NBC Installation Emergency Management Plan. Additionally, the Navy is establishing an internal Traffic Advisory Committee to address larger NBC traffic issues. This committee will work with the Cities of Imperial Beach and Coronado on traffic

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				issues related to evacuations, as needed.
			UTILITIES AND PUBLIC SERVICES	
12.1	5-4	Cole, R.	Will there be any mitigation accorded to Imperial Beach (even though property is in Coronado) to handle water, sewage, and traffic concerns?	The Navy, as owner of the project, would pay for sewer improvements related to the project. The Navy would also continue to pay Imperial Beach for ongoing wastewater service. Water, on the other hand, is owned by California American Water Company. Imperial Beach would not be directly involved in water infrastructure upgrades or fees for services. Traffic mitigations have been identified in Section 3.9 of the EIS.
12.2	6-2	McCoy, P.	Pay the City of Imperial Beach for use of the sewer line comply with the City's system on Palm.	The Navy, as owner of the project, would pay for sewer improvements related to the project. The Navy would continue to pay Imperial Beach for ongoing wastewater service.
12.3	28-20	Janney, J. (City of IB)	The City supports the Navy's proposal to connect to and provide significant upgrades to the City's sanitary sewer system, however, because the sewer capacity model that the Navy may have discussed with the City's consultant RBF may be outdated, an updated analysis of the project impacts to the City's sewer conveyance system should be performed.	The Navy has confirmed that RBF still keeps and maintains the City of Imperial Beach's model. Although some potential development may affect the model, to date, the City of Imperial Beach has not requested that the model be updated, so the version of the model used in the study is the most current available.
12.4	28-21	Janney, J. (City of IB)	The Navy should work with the City on modeling the sewer capacity and identify areas where upgrades are needed in the system. Additionally, the City does not have funding allocated for the proposed sewer upgrades and, therefore, would need to have them designed and constructed by the Navy as part of and to adequately serve the proposed Coastal Campus project. The EIS identifies replacing the entire sewer line to pump station 5 and along Imperial Beach Blvd between 4th and East Lane. Again, the City does not have funds to perform these upgrades and there may be other impacts to the City's wet wells and downstream conveyance system that are not considered in the EIS analysis.	The EIS described the existing sewer capacity conditions in Section 3.12.1. The Navy would fund the off-site sewer improvements described in the EIS. The City of Imperial Beach's sewer consultant, RBF, ran the increases from the development into the model and identified the necessary improvements.
12.5	28-22	Janney, J. (City of IB)	It is our understanding that the Navy's stated proposal in the EIS to connect to the City's sanitary sewer/wastewater system may require Local Agency Formation Commission (LAFCO) approval. Although the City	As stated in the EIS in Section 3.12, SSTC-South currently conveys wastewater to the City of Imperial Beach system via an existing 4-inch-diameter pressurized sewer main within Hooper Boulevard. California

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			supports and would assist with the Navy's proposed connection to its sanitary sewer system, it is the City's expectation that the Navy will be exclusively responsible for all procedural, design, and construction costs associated with this stated intention including all costs associated with obtaining any required LAFCO or other jurisdictional approvals.	Government Code 56133 specifically states that it does not apply to an extended service that a city or district was providing on or before 1 January 2001 as is the case with this sewer service. The existing line is proposed for improvements to handle the additional wastewater demand. Therefore, the Navy does not believe LAFCO approval is required; however, the Navy will work with the Cities of Imperial Beach and Coronado and LAFCO to resolve this issue.
12.6	28-23	Janney, J. (City of IB)	A natural gas line enters the Coastal Campus site through the southern gate and will likely be routed from that point to the new buildings. The EIS did not state whether that gas line entering the base from the City is sized sufficiently to meet their needs. If not, then the upsizing of that gas line will come through the City disrupting the community and potentially damaging City streets. The City requests that the Navy analyze this gas line to determine its adequacy to serve the proposed Coastal Campus and to identify any needed upsizing of this line.	The existing natural gas lines described in Section 3.12.2.3 of the EIS have the capacity to accommodate the proposed Coastal Campus.
12.7	29-11	Goforth, K. M. (USEPA)	Construction and Demolition (C&D) Debris Recycling – The DEIS references Commander Navy Region Southwest Instruction 11350.1B, which requires a 50% diversion of C&D debris (p. 3.12-8); however, the DEIS states that a worst case scenario of no C&D reuse on site would result in 5,400 roundtrip truck trips to haul approximately 50,000 cubic yards of demolition materials (p. 3.6-12). We recommend that the FEIS commit to at least 50% reuse of C&D debris or explain why some or all of it would have no onsite reuse potential such that it would need to be shipped offsite.	The proposed Coastal Campus would comply with the Solid Waste Disposal Act, Solid Waste Management and Resource Recovery Ashore (OPNAV M-5090.1 [January 2014]), and NAVFAC Southwest RFP (Section 01 74 19.05 20) *Construction and Demolition Waste Management for Installations that use Miramar Landfill* (June 2010). The Solid Waste Disposal Act requires Federal facilities to comply with all Federal, state, interstate, and local requirements concerning the disposal and management of solid waste. The Solid Waste Disposal Act encourages beneficial reuse of wastes through recycling and incineration for energy recovery. The Solid Waste Management and Resource Recovery Ashore requires reduction of solid waste at the source, diversion, and disposal. Diversion would involve reuse, donation, recycling, composting, chipping, and mulching to divert the waste stream from the landfill. Disposal would include

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				incineration and, lastly, landfill disposal. The NAVFAC Southwest RFP policy requires the construction contractor(s) to prepare a solid waste management plan that identifies the actions to be taken to reduce solid waste generation, the types and quantities of waste to be generated, actions to be taken to divert at least 60% of construction and demolition debris from the waste stream, local and regional reuse programs, materials that cannot be recycled/reused and the justification, and the anticipated net costs savings. Construction and demolition debris would first be reused, followed by recycled, and then, as a last option, disposed of as waste at a landfill.
12.8	29-12	Goforth, K. M. (USEPA)	Use of Rooftop Photovoltaics – The DEIS states that "it is not known how much photovoltaics would be used since the building design has not occurred; however, architectural projections estimate that up to 67 percent of rooftop space could be used for photovoltaics" (p. 3.12-11). We recommend that the FEIS commit to maximizing the use of photovoltaics, including on buildings and on carports in parking lots, and include this requirement in the design specifications.	Photovoltaic usage would be maximized to the extent practical.
12.9	29-13	Goforth, K. M. (USEPA)	Graywater use in buildings – The DEIS states that the design features for stormwater management would offer a supplemental resource for irrigation and/or graywater use in facility buildings (p. 3.12-13). We recommend that the FEIS indicate whether the building design will include graywater use for facility buildings and, if so, commit to this design feature so it is included in design specifications.	Storm water runoff would not be reused within the facility buildings, and the EIS has been revised for clarification. There is insufficient precipitation in Southern California to justify the cost to store and treat the small amount of runoff this site would generate. Storm water runoff is not a viable resource for reuse at this site. The site is also very sandy, and it is expected that most precipitation would soak into the soil. Storm water runoff could be used for irrigation, but, at this stage, the Navy cannot commit to this usage.
12.10	30-1	Ott, M. (SD LAFCO)	In summary, the San Diego LAFCO requests that the EIS identify LAFCO as a discretionary agency with purview over the provision of wastewater service. In addition, the Final EIS should contain a thorough discussion about associated infrastructure improvements; available capacity and needed upgrades; growth induction potential to surrounding uses; contractual service provisions (Government Code Section	The Navy does not believe that LAFCO has purview over the provision of wastewater services in this case because the City of Imperial Beach would not be providing "new or extended services." SSTC-South currently conveys wastewater to the City of Imperial Beach system via an existing 4-inch-diameter pressurized sewer main within Hooper Boulevard. Only improvements to the existing line to handle the additional wastewater

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			56133) with Imperial Beach and Coronado; relationship to Imperial Beach and Coronado municipal boundaries and adopted sphere of influence; overall compliance of the NBC with Government Code Section 56133; and opportunities for coordination between federal, state, and local agencies regarding NEPA and CEQA requirements, particularly related to the provision of wastewater services to the NBC.	demand are proposed. Thus, California Government Code Section 56133 does not apply.
12.11	34-29	City of Coronado	The document indicates the wastewater from the Coastal Campus project will be sent to Imperial Beach. Unless a current contracts exists with Imperial Beach for Wastewater, there will be no expansion of another agency's services into Coronado. **LAFCO must verify and approve any extension of municipal services outside a city's limits and sphere of influence.**	SSTC-South currently conveys wastewater to the City of Imperial Beach system via an existing 4-inch-diameter pressurized sewer main within Hooper Boulevard. The existing line is proposed for improvements to handle the additional wastewater demand.
12.12	43-11	McCoy, M.	So the water line – There's a radio receiving station that they're going to take out – they call it the elephant cage – and there's a projected waterline that goes down the east side of that, and it goes through the vernal pools, and it's got a 40-foot easement on it. So when you're putting in the waterline doing maintenance, it could have an impact on vernal pools, and we don't need that. I don't know how to resituate that.	The water pipeline location has been eliminated in the area of the Wullenweber Antenna Array to avoid the vernal pool area completely.
			COASTAL USES AND RESOURCES	
13.1	4-3	Mazur, Z.	This project needs access to beach.	Public access is currently allowed up to the mean high tide level on the beach unless military operations temporarily restrict use of the beach. The proposed Coastal Campus would not alter current public access to the beach or ocean.
13.2	6-1	McCoy, P.	Please keep access to the beach open—a curfew would be acceptable, e.g., 10:00 p.m. to 5:00 a.m. I have walked this beach for two+ years and have many of our neighbors. (We are not 9/11 terrorists—just residents.)	Public access is currently allowed up to the mean high tide level on the beach unless military operations temporarily restrict use of the beach. The proposed Coastal Campus would not alter current public access to the beach or ocean.
13.3	7-1	Jiampa, C.	Will there still be beach access? Right now citizens can walk on the beach. We would like to continue to be able to walk along the beach.	Public access is currently allowed up to the mean high tide level on the beach unless military operations temporarily restrict use of the beach. The proposed Coastal Campus would not alter current public access to the beach or ocean.
13.4	9-2	NNP	We need a way to extend the "Otay to Ocean" biking/walking path. Recommend a walking/biking path for	The proposed Coastal Campus would not alter current public access to the beach or ocean. Providing an

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			the public to access along the south end of the Navy property.	interconnection for local and regional trails is not part of this action.
13.5	14-4	Besikof, D.	On a broader scale, the precious beach you wish to deface belongs to-all the people of California and our American visitors. They will no longer be able to enjoy the unique natural ocean and wildlife habitat, which will either be totally destroyed or blotted from sight by this development.	Public access is currently allowed up to the mean high tide level on the beach unless military operations temporarily restrict use of the beach. The proposed Coastal Campus would not alter current public access to the beach or ocean. Additionally, supplemental visual simulations have also been prepared to show the potential effects to beach goers, which are included in the Final EIS. Additional simulations have been prepared from the beach adjacent to YMCA Camp Surf and from Silver Strand State Beach. These simulations have been included in Section 3.14.3.3.
13.6	31-4	Armstrong, J. (Caltrans)	Stewardship/Permits: The proposed project site is within the Coastal Zone and coordination with the California Coastal Commission and/or the City of Coronado will be needed.	The Navy prepared a coastal consistency determination for the proposed NBC Coastal Campus and the California Coastal Commission concurred with the determination on 12 November 2014.
13.7	34-57	City of Coronado	What about the lateral public access that exists below the mean high tide line from Silver Strand State Beach to the City of Imperial Beach? **The EIS should recognize the lateral public access that exists and describe how the project and public's coastal access will not be impacted.**	Section 3.13 of the EIS has been edited to clearly state that public coastal (beach and ocean) access is currently allowed up to the mean high tide level on the beach unless military operations temporarily restrict use of the beach, and the proposed Coastal Campus would not alter current public access to the beach or ocean.
13.8	38-1	Hicks, B.	My question is, I'm for the development if the beach would remain a shared access. I understand that technically they could enforce not allowing people to walk up the coast and walk their dogs up the coast, but we're hoping, as locals, we can remain supporting this project to be able to continue having access to the beach. And the locals do understand not to bother the dunes, or environmental species, and we would like to work together and continue doing that.	Public access is currently allowed up to the mean high tide level on the beach unless military operations temporarily restrict use of the beach. The proposed Coastal Campus would not alter current public access to the beach or ocean.
13.9	40-1	Carol	My biggest concern is having access past the north jetty to be able to walk every morning, like I have for the last 30 something years.	Public access is currently allowed up to the mean high tide level on the beach unless military operations temporarily restrict use of the beach. The proposed Coastal Campus would not alter current public access to the beach or ocean.
13.10	50-1	Lowenberg, G.	I am supportive of the Navy and understand the need to upgrade and enhance facilities in order for it to more effectively and efficiently accomplish its mission. However, as a	Public access is currently allowed up to the mean high tide level on the beach unless military operations temporarily restrict use of the beach. The proposed Coastal Campus would not alter current

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			resident of the Coronado Cays, I am opposed to any further encroachment onto the public beach as well as to any closing or restricted uses of the beach or the water. Presently, the public can walk on a wide stretch of beach all the way from the Silver Strand RV Park to the Imperial Beach Pier and beyond. Further, water access and water use is unrestricted in that entire area. It should all stay that way. This stretch of beach is a precious resource to be enjoyed by the public.	public access to the beach or ocean.
13.11	50-2	Lowenberg, G.	Also, if the Navy is moving facilities from the amphibious base then, as mitigation, perhaps the Navy could open to the public more of the beach from the Silver Strand RV Park toward the amphibious base so that people can walk further up the beach in that direction as well.	The Navy will continue to use the beach area of SSTC-North. The proposed Coastal Campus would not alter current public access to the beach or ocean. Public coastal (beach and ocean) access is currently allowed up to the mean high tide level on the beach unless military operations temporarily restrict use of the beach, and the proposed Coastal Campus would not alter current public access to the beach or ocean.
13.12	57-3	Threlkeld, S.	We would also be opposed to additional closed/limited access of the beach along the southern Silver Strand, but it seems based on studying the DEIS that this will not be an issue.	Public access is currently allowed up to the mean high tide level on the beach unless military operations temporarily restrict use of the beach. The proposed Coastal Campus would not alter current public access to the beach or ocean.
			AESTHETICS	
14.1	5-3	Cole, R.	How is height and density of the construction determined?	With exception of the paraloft building and some potential communication antennas, the height of proposed campus buildings is limited to that of existing structures, the tallest of which is 45 feet. Density of construction was determined by operational square footage requirements relative to the height limit.
14.2	6-4	McCoy, P.	Buildings should fit into the environment with wetland plant colors.	Visual impacts are evaluated in Section 3.14, Aesthetics, of the EIS. This includes visual simulations of the appearance of the proposed Coastal Campus from locations along SR-75, Coronado Cays, and the State Beach, and from Imperial Beach. The intent is to incorporate context-sensitive architectural treatments; natural earth-tone colors; shielded outdoor lighting; and native, water-sensitive landscape treatments to minimize the overall visual effect of the Coastal Campus.
14.3	6-5	McCoy, P.	Take plant samples and match colors and the natural land environment.	Visual impacts are evaluated in Section 3.14, Aesthetics, of the EIS. This

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				includes visual simulations of the appearance of the proposed Coastal Campus from locations along SR-75, Coronado Cays, and the State Beach, and from Imperial Beach. The intent is to incorporate context-sensitive architectural treatments; natural earth-tone colors; shielded outdoor lighting; and native, water-sensitive landscape treatments to minimize the overall visual effect of the Coastal Campus.
14.4	10-2	NNP	The plants/foliage should stay consistent with the existing landscape.	Visual impacts are evaluated in Section 3.14, Aesthetics, of the EIS. This includes visual simulations of the appearance of the proposed Coastal Campus from locations along SR-75, Coronado Cays, and the State Beach, and from Imperial Beach. The intent is to incorporate context-sensitive architectural treatments; natural earth-tone colors; shielded outdoor lighting; and native, water-sensitive landscape treatments to minimize the overall visual effect of the Coastal Campus.
14.5	15-2	Woiwode, M.	Make sure to preserve the view shed, compatible with the rest of the scenic highway.	The Caltrans review of the EIS has determined that the postconstruction conditions of SR-75 would continue to comply with the five (5) legislatively required elements for official scenic highways under Section 261 of the Streets and Highways Code, and that Section 3.14, Aesthetics, of the EIS is in general compliance with accepted standards for visual analysis. In addition, the Navy prepared a coastal consistency determination for the proposed NBC Coastal Campus and the California Coastal Commission concurred with the determination on 12 November 2014.
14.6	24-1	Sadlier, A.D.	My request is that we do not see buildings from Highway 75. That the landscape continues to look as it does now—natural.	Visual impacts are evaluated in Section 3.14, Aesthetics, of the EIS. This includes visual simulations of the appearance of the proposed Coastal Campus from locations along SR-75, Coronado Cays, and the State Beach, and from Imperial Beach. The intent is to incorporate context-sensitive architectural treatments; natural earth-tone colors; shielded outdoor lighting; and native, water-sensitive landscape treatments to minimize the overall visual effect of the Coastal Campus.
14.7	31-7	Armstrong, J. (Caltrans)	Visual Resources: The visual review dated March 3, 2014 is still applicable to the project and Draft EIS. This review memo is attached for reference.	The Caltrans review of the EIS has determined that the postconstruction conditions of SR-75 would continue to comply with the five (5) legislatively required elements for official scenic

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				highways under Section 261 of the Streets and Highways Code, and Section 3.14, Aesthetics, of the EIS is in general compliance with accepted standards for visual analysis.
14.8	31-13	Armstrong, J. (Caltrans)	We find the visual assessment of the proposed project to be in general compliance with accepted standards for visual analysis. Please don't hesitate to contact us with any questions or comments.	Thank you for your comment.
14.9	34-35	City of Coronado	The Silver Strand was designated a Scenic Highway by the State of California in 1974. As noted in the City's Scenic Highway Element of the General Plan, a Scenic Corridor is defined by the State of California Department of Transportation as *"a band of visible land along and generally adjacent to but outside of the highway right-of-way having scenic, historical or aesthetic characteristics."* To assist in the implementation of the Scenic Highway Element of the General Plan, the City has adopted Chapter 86.44 of the CMC establishing a Scenic Highway Overlay Zone. The regulations are designed to eliminate unsightly conditions which may distract or impair the safety of highway users, to protect views from scenic highways and to retain unusual and attractive natural and manmade features within the scenic corridor. In accordance with Chapter 86.44, all structures within the Scenic Highway should also be reviewed by the City's Design Review Commission.	The proposed Coastal Campus property falls within the boundaries of the City of Coronado's Scenic Highway Overlay Zone, but the regulations themselves do not apply to Federal property (i.e., the Federal government property is not subject to local zoning codes/regulations). The Caltrans review of the EIS has determined that the postconstruction conditions of SR-75 would continue to comply with the five (5) legislatively required elements for official scenic highways under Section 261 of the Streets and Highways Code, and that Section 3.14, Aesthetics, of the EIS is in general compliance with accepted standards for visual analysis.
14.10	34-37	City of Coronado	Page ES-19 Visual Cumulative Impacts: The document states, NBC campus would be *"visually compatible with the existing building heights. No structures would be taller than 45 feet above grade with the exception of the proposed 120 foot-tall paraloft. Partial removal of the Wullenweber Antenna Array would improve the existing visual landscape of SSTC-South by providing increased opened views of the natural environment."* Comment: The City disagrees with this statement. A recent tour of the facility revealed there are very few structures existing. Of those structures existing, the majority are one-story, with two at a height of approximately 30 feet. Two rather camouflaged bunkers exist that are approximately 45 feet in height.	The EIS (Section 3.14) states that the Coastal Campus would result in a noticeable change to existing conditions on-base from viewpoints along SR-75, the Bayshore Bikeway, the Coronado Cays, and Silver Strand State Beach. Southbound views would be particularly altered, as the appearance of the base would include several additional structures, new landscape treatments, and a paraloft tower surrounded by lower roofline profiles. The EIS states that the intensity/density would increase and that the paraloft (P-920) would be the most noticeable change as the massing and scale would be visually incongruent with its surroundings. The intent is to incorporate context-sensitive architectural treatments; natural earth-tone colors; shielded outdoor lighting;

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			The only tall, large structure that exists is the open Antenna Array. The Coastal Campus project proposes a series of new buildings totaling approximately 1.5 million square feet. These new buildings will be up to 45 feet in height, and a new paraloft structure 50 feet by 80 feet is proposed at 120 feet in height. While the removal of the Wullenweber Antenna Array will be a positive visual improvement to the southern end of the facility, the City does not agree that the new structures will be visually compatible with the existing buildings and heights. The number, volume of buildings, height of buildings, and overall mass of development will be considerably different; particularly at the northwestern side of the planned facility.	and native, water-sensitive landscape treatments to minimize the overall visual effect of the Coastal Campus. At the request of the California Coastal Commission as part of their evaluation of the coastal consistency determination, supplemental visual simulations were prepared to show potential effects to beach goers, residents, and motorists north of the Coastal Campus. These simulations have been included in the Final EIS. Simulations were prepared from Silver Strand State Beach looking south along the water line; from SR-75 at the north gate; and from mid-campus looking due west along SR-75. The California Coastal Commission concurred with the Navy's coastal consistency determination on 12 November 2014.
14.11	34-38	City of Coronado	Comment: Figures 3.14-9 and 10 provide existing conditions and visual simulations of the proposed activity (Alternative 1) as viewed from southbound SR-75. The City disagrees with the conclusions of the aesthetics analysis. The visual simulations illustrate the new bulk, mass, and height in the northwest quadrant of the Coastal Campus. The proposed buildings are an added visual intrusion to the natural environment along the beach side of SR-75, a State designated Scenic Highway. The visual simulations represent no design or planning within the context/environmental setting of the Silver Strand. In addition, there will be a new roadway, security gate entrance, sentry building, parking area, bus loading/unloading, security lighting, and associated improvements near Highway 75, which presently does not exist. There will also be a new traffic signal located immediately within the State designated scenic highway and day and night-time visual intrusions as well. *As proposed,* the intersection and new entry point would add significant vehicle headlight glare in the direction of the Coronado Cays at night. **The roadway and intersection design should mitigate any headlight glare into residential areas of the Coronado Cays. Overall, the City requests that the entire project be re-designed to be architecturally and environmentally sensitive and compatible to the**	The visual analysis states that the Coastal Campus would result in a noticeable change to existing conditions on-base from viewpoints along SR-75; the new entry control point would change the visible character of this area, as this feature and type of use are not present in this location; and the presence of new traffic controls would introduce urbanizing elements into a generally undeveloped landscape. Caltrans has reviewed Section 3.14, Aesthetics, of the EIS and determined that the postconstruction conditions of SR-75 would continue to comply with the five (5) legislatively required elements for official scenic highways under Section 261 of the Streets and Highways Code and that the aesthetics section of the EIS is in general compliance with accepted standards for visual analysis. Supplemental visual simulations have been prepared to show potential effects to beach goers, residents, and motorists north of the Coastal Campus, and are being included in the EIS. Simulations were prepared from Silver Strand State Beach looking south along the water line; from SR-75 at the north gate; and from mid-campus looking due west along SR-75. The California Coastal Commission concurred with the Navy's coastal consistency determination on 12 November 2014. The Entry Control Point ingress and egress would be designed to minimize

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			project area and surroundings. The EIS should analyze alternatives to the paraloft tower structure to reduce visual impacts such as placing the building partially below grade; redesigning it to be an "open" rather than "enclosed" structure; or relocating it to NAB on the bayside where taller structures presently exist.	any headlight glare into residential areas of the Coronado Cays.
14.12	34-40	City of Coronado	The Aesthetics discussion should be modified to reflect the Community's Design Goals/standards for new development along the Scenic Highway. The City and Navy have partnered on many projects in the past within this area and along the Silver Strand to enhance the Scenic Highway. For example, the Navy and City recently worked together to remove overhead utility lines and poles at this location and south to Imperial Beach to provide an unobstructed view of San Diego Bay. The EIS should reflect a commitment by the Navy to work with the adjoining cities to ensure the design of the facilities is compatible with the State Scenic Highway and guidelines. **The City requests that the new facilities visible from the Scenic Highway be shared with the City's Design Review Commission for review and comment, as an advisory action to the Navy.**	The Navy will continue to partner with the City of Coronado on improving the scenic highway. Caltrans has reviewed Section 3.14, Aesthetics, of the EIS and determined that the postconstruction conditions of SR-75 would continue to comply with the five (5) legislatively required elements for official scenic highways under Section 261 of the Streets and Highways Code and that the aesthetics section of the EIS is in general compliance with accepted standards for visual analysis. Supplemental visual simulations have been prepared to show potential effects to beach goers, residents, and motorists north of the Coastal Campus, and are being included in the EIS. Simulations were prepared from Silver Strand State Beach looking south along the water line; from SR-75 at the north gate; and from mid-campus looking due west along SR-75. The Navy would share the Coastal Campus designs with the City of Coronado as soon as the designs are released to the public via the Federal Register.
14.13	34-42	City of Coronado	**The City requests that the existing State Park dilapidated fence within the "project area" be removed and replaced with fencing that is more compatible with the natural coastal environment and consistent with the State Scenic Highway Corridor Guidelines.**	The Navy would replace any existing fencing required to be removed as part of the Coastal Campus. It is, however, unlikely that the fence discussed in this comment would need to be removed, but in the removal is needed, the lease with the State Lands Commission requires the State Lands Commission to "construct fencing satisfactory to the Government" and to "protect, preserve, and maintain and repair the Leased Property".
14.14	34-43	City of Coronado	Page 3.14-10 states *"the SSTC-South existing operations include administrative and training facilities that include helicopter activity as part of their existing training and operations; this could not be affected under this action. For this reason, visibility and presence of helicopters*	FAA Advisory Circular 70/7460-1K, Obstruction Marking and Lighting states that obstruction lighting is not normally recommended on structures 200 feet above ground level or less. Should the Navy include obstruction lighting on the paraloft for additional safety, the lights would be red.

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			are considered existing conditions and are not discussed, and effects are not analyzed in this EIS." Comment: The City disagrees with this statement. Currently, the helicopter activity is minimal. The majority of structures that exist are only one-story. A new 120-foot tall paraloft tower that is 50 feet by 80 feet in size is proposed for the site along with many structures at 45 feet in height. Will the presence of new buildings at 45 feet in height and paraloft tower at 120 feet combined with existing helicopter activity require additional nighttime safety (flight) lighting on the new buildings?	
14.15	34-44	City of Coronado	The document indicates that Caltrans has reviewed the project and found the improvements are consistent with the Scenic Highway Guidelines. The EIS should describe how the project is consistent with the Scenic Highway Guidelines and does not represent visual intrusions as described in Appendix E.	The Caltrans review of the EIS has determined that the postconstruction conditions of SR-75 would continue to comply with the five (5) legislatively required elements for official scenic highways under Section 261 of the Streets and Highways Code, and that Section 3.14, Aesthetics, of the EIS is in general compliance with accepted standards for visual analysis. Additionally, as described in the EIS, buildings would constitute a minor intrusion but would not dominate the landscape, would have wide setbacks, and would be architecturally treated with colors and materials compatible with the surroundings; parking would be screened from view; utilities would be undergrounded; noise barriers, if required, would be earthen (dunes); landscape would be native; and proposed minor grading would not alter existing landforms along SR-75.
14.16	34-45	City of Coronado	In terms of any new signs for the Campus (other than name recognition of the base), the project shall comply with Government Code Section 5441 Removal of Structures, Signs. *"Except as provided in Section 5442.5, no advertising display may be placed or maintained along any highway or segment of any interstate highway or primary highway that before, on, or after the effective date of Section 131(s) of Title 23 of the United States Code is an officially designated scenic highway or scenic byway."*	A sign is proposed at the Entry Control Point with the name of the installation. There would also be small signs indicating that the site is Federal property. No advertising display is proposed.
14.17	34-46	City of Coronado	Page 2-11 Alternative 1 SSTC South Bunker Demolition Alternates states *"Site preparation would potentially also include demolition of infrastructure and site grading and leveling."* Comment: Are there	Grading plans would be prepared as part of project design. Building 99 is partially below ground and could result in a depression. The EIS text refers to filling in any low areas associated with the demolition to be at the grade of the

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			topographical maps, grading plans with elevations? How much will the existing bunker elevation by lowered? Can grade elevations be lowered to minimize new visual obstructions associated with the paraloft and new structures not to exceed 45 feet in height?	surrounding area. The area of the bunker would be filled and compacted after demolition to provide sheet drainage and to prevent any ponding.
14.18	34-47	City of Coronado	Visual simulations reflect existing and proposed building elevations as well as landscaping. Are some of the existing trees Torrey Pines, and will they remain or will they be replaced? Every measure should be taken to retain any existing Torrey Pine in its present location, or if necessary, relocated to another location on the site.	No Torrey Pines have been identified on the site.
14.19	37-1	Benham, R.	The Navy could have a more positive influence on the Imperial Beach area by adopting locally homegrown concepts that contain direct and subtle social and cultural identities and benefits. For examples and background information see pages 93 to 107 of attached book, and www.pchdinnershow.com for color renderings of design concepts.	Visual impacts are evaluated in Section 3.14, Aesthetics, of the EIS. This includes visual simulations of the appearance of the proposed Coastal Campus from locations along SR-75, Coronado Cays, and the State Beach, and from Imperial Beach. The intent is to incorporate context-sensitive architectural treatments; natural earth-tone colors; shielded outdoor lighting; and native, water-sensitive landscape treatments to minimize the overall visual effect of the Coastal Campus.
14.20	50-3	Lowenberg, G.	Finally, the Navy should ensure the aesthetics of the proposed project from both the beach and the Silver Strand. This project should not be an eyesore when viewed from any direction. But, should blend in with the natural scenery and/or be screened from view with appropriate vegetation and other measures. Please do not let this project look like the Kinder Morgan Tank Farm off of I-52 and Convoy, which is tremendous eyesore!	Visual impacts are evaluated in Section 3.14, Aesthetics, of the EIS. This includes visual simulations of the appearance of the proposed Coastal Campus from locations along SR-75, Coronado Cays, and the State Beach, and from Imperial Beach. The intent is to incorporate context-sensitive architectural treatments; natural earth-tone colors; shielded outdoor lighting; and native, water-sensitive landscape treatments to minimize the overall visual effect of the Coastal Campus.
14.21	1-11	Glass, C.	The carrying capacity of the surrounding protected lands as well as traffic on the Silver Strand highway which should be a major concern does not seem to have been addressed except in a tangential way. I hope that going forward the planners and architects will use all their design skills to create the most attractive and non-invasive project possible. There are other examples out there and the Navy should not just take the easiest route available to satisfying their needs.	Visual impacts are evaluated in Section 3.14, Aesthetics, of the EIS. This includes visual simulations of the appearance of the proposed Coastal Campus from locations along SR-75, Coronado Cays, and the State Beach, and from Imperial Beach. The intent is to incorporate context-sensitive architectural treatments; natural earth-tone colors; shielded outdoor lighting; and native, water-sensitive landscape treatments to minimize the overall visual effect of the Coastal Campus.

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			ALTERNATIVES	
15.1	4-2	Mazur, Z.	All these projects belong at Camp Pendleton.	As described in Purpose and Need (Section 1.3), Development of Alternatives (Section 2.3), Alternatives Considered but Not Carried Forward for Detailed Analysis (Section 2.4), and Alternatives Carried Forward for Analysis (Section 2.5) of the EIS, the SSTC-South location is the one location that meets the Navy's needs. Camp Pendleton would not work because it is outside the NBC footprint, it would impede the Marine Corps activities and mission and further constrain NSW training, and NSW would not achieve primary or efficiency of use.
15.2	10-1	NNP	Incorporate a dual purpose for the parachute drying tower. The size warrants for more of a usable space.	The planned height of the paraloft is driven by specific structural/functional needs that do not lend themselves to multiple-purpose use of the interior of the facility.
15.3	13-2	NNP	So I heard there are plans to implement a parachute drying tunnel—that seems like a perfect excuse for an indoor skydiving tower.	There are no plans to construct an indoor skydiving tower on the Coastal Campus.
15.4	14-1	Besikof, D.	The proposed project which is the subject of today's meeting should not go forward as presented. It is simply too much, too big and too unnecessary.	As described in Purpose and Need (Section 1.3), Development of Alternatives (Section 2.3), Alternatives Considered but Not Carried Forward for Detailed Analysis (Section 2.4), and Alternatives Carried Forward for Analysis (Section 2.5) of the EIS, the SSTC-South location is the only location that meets the Navy's needs.
15.5	14-2	Besikof, D.	The Navy owns a huge share of the San Diego Bay and ocean waterfronts, including other locations already in use that could be expanded/adapted.	As described in Purpose and Need (Section 1.3), Development of Alternatives (Section 2.3), Alternatives Considered but Not Carried Forward for Detailed Analysis (Section 2.4), and Alternatives Carried Forward for Analysis (Section 2.5) of the EIS, the SSTC-South location is the only location that meets the Navy's needs. Camp Pendleton would not work because it is outside the NBC footprint, it would impede the Marine Corps activities and mission and further constrain NSW training, and NSW would not achieve primary or efficiency of use.
15.6	16-2	Anderson, S.	I support Alternatives 1 and 2 due to their minimal impact to our environment.	The Navy action proponents have selected Alternative 1 (SSTC-South Bunker Demolition Alternative) as the preferred alternative. Section 2.6 of the Final EIS provides justification for this selection. A decision will not be finalized until after the Final EIS is

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				prepared and a Record of Decision is signed by the Assistant Secretary of the Navy.
15.7	19-1	Royle Jr., J.	The list of alternate locations for the project is rather long but omits Marine Corps Air Station Miramar. Not to imply that Miramar would be a feasible location, but why was it not evaluated like the others?	MCAS Miramar has been added to Section 2.4 of the Final EIS. MCAS Miramar would not meet the purpose and need for the project or the alternative selection criteria.
15.8	22-4	Merrill, R.	I know that this is a dog and pony show and the government will do as it pleases. If you are for such a proposal at the expense of the residents in Imperial Beach, then put it in your neighborhood!	As described in Purpose and Need (Section 1.3), Development of Alternatives (Section 2.3), Alternatives Considered but Not Carried Forward for Detailed Analysis (Section 2.4), and Alternatives Carried Forward for Analysis (Section 2.5) of the EIS, the SSTC-South location is the one location that meets the Navy's needs. Camp Pendleton would not work because it is outside the NBC footprint, it would impede the Marine Corps activities and mission and further constrain NSW training, and NSW would not achieve primary or efficiency of use.
15.9	48-1	Anonymous	If these new facilities NEED to be located on prime oceanfront land, then so be it. Otherwise, they should go elsewhere.	As described in Purpose and Need (Section 1.3), Development of Alternatives (Section 2.3), Alternatives Considered but Not Carried Forward for Detailed Analysis (Section 2.4), and Alternatives Carried Forward for Analysis (Section 2.5) of the EIS, the SSTC-South location is the one location that meets the Navy's needs. Camp Pendleton would not work because it is outside the NBC footprint, it would impede the Marine Corps activities and mission and further constrain NSW training, and NSW would not achieve primary or efficiency of use.
15.10	48-2	Anonymous	If these new facilities do not require a beautiful oceanfront location then they should not be built on the ocean; to do so is a colossal waste of prime public land. Instead that area should be developed to the full extent of its recreational and scenic potential, and opened up for the benefit of all.	As described in Purpose and Need (Section 1.3), Development of Alternatives (Section 2.3), Alternatives Considered but Not Carried Forward for Detailed Analysis (Section 2.4), and Alternatives Carried Forward for Analysis (Section 2.5) of the EIS, the SSTC-South location is the one location that meets the Navy's needs. Camp Pendleton would not work because it is outside the NBC footprint, it would impede the Marine Corps activities and mission and further constrain NSW training, and NSW would not achieve primary or efficiency of use.
15.11	52-1	Smith, P.	Alternative 1 makes the most sense. By a mile. This would be a major win/win/win/win for the SEALs, the Fleet, the country, and Imperial	The Navy action proponents have selected Alternative 1 (SSTC-South Bunker Demolition Alternative) as the preferred alternative. Section 2.6 of the

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			Beach.	Final EIS provides justification for this selection. A decision will not be finalized until after the Final EIS is prepared and a Record of Decision is signed by the Assistant Secretary of the Navy.
15.12	52-4	Smith, P.	If we're going to do this – and with the world headed in the direction that it currently is, we certainly need to – let's do it and do it right … Alt 1.	The Navy action proponents have selected Alternative 1 (SSTC-South Bunker Demolition Alternative) as the preferred alternative. Section 2.6 of the Final EIS provides justification for this selection. A decision will not be finalized until after the Final EIS is prepared and a Record of Decision is signed by the Assistant Secretary of the Navy.
15.13	55-5	Rogerson, C.	I urge the Navy to considerably downsize the proposed NBC Coastal Campus or relocate it completely.	As described in Purpose and Need (Section 1.3), Development of Alternatives (Section 2.3), Alternatives Considered but Not Carried Forward for Detailed Analysis (Section 2.4), and Alternatives Carried Forward for Analysis (Section 2.5) of the EIS, the SSTC-South location is the one location that meets the Navy's needs. Camp Pendleton would not work because it is outside the NBC footprint, it would impede the Marine Corps activities and mission and further constrain NSW training, and NSW would not achieve primary or efficiency of use.
15.14	60-19	Phillips, C. (CA Parks and Rec)	CSP supports Alternative 2 with regard to Cultural Resource Impacts. Alternative 2 does not cause adverse effects to historic resources involving demolition of historic bunker (building 99) a contributor to the NRHP-eligible Fort Emory Coastal Defense Historic District.	The Navy action proponents have selected Alternative 1 (SSTC-South Bunker Demolition Alternative, which includes the demolition of Building 99) as the preferred alternative. Section 2.6 of the Final EIS provides justification for this selection. A decision will not be finalized until after the Final EIS is prepared and a Record of Decision is signed by the Assistant Secretary of the Navy. The Navy has consulted with the State Historic Preservation Officer under Section 106 of the National Historic Preservation Act (NHPA) for its concurrence on recommendations of cultural resource noneligibility and for development and implementation of a Memorandum of Agreement to address adverse effects to the bunker. The Navy has consulted with the U.S. Fish and Wildlife Service under the Endangered Species Act, and an Informal Consultation Concurrence Letter has been issued with impact avoidance and minimization measures.

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15.15	64-2	Elwell, J.	I AM DEEPLY CONCERNED ABOUT THE OMISSIONS and lack of full disclosure and the skirting of issues of importance other than the detailed plans for infrastructure of traffic, sewerage, and water delivery. I believe the smoke screen is the word "Campus" which will be luxurious housing for senior naval personal with one of the marvelous views on the Pacific Coast and a private beach for recreation.	As described in Purpose and Need (Section 1.3), Development of Alternatives (Section 2.3), Alternatives Considered but Not Carried Forward for Detailed Analysis (Section 2.4), and Alternatives Carried Forward for Analysis (Section 2.5) of the EIS, the SSTC-South location is the one location that meets the Navy's needs. Camp Pendleton would not work because it is outside the NBC footprint, it would impede the Marine Corps activities and mission and further constrain NSW training, and NSW would not achieve primary or efficiency of use.
15.16	64-4	Elwell, J.	THE NAVY DOES NOT NEED THIS LAND BUT WANTS IT, I propose the whole plan be reconsidered to be saved in a Coastal Conservancy for protection.	The Navy owns this land. Having Navy land set aside in a coastal conservancy would not meet the purpose and need for the Proposed Action nor would it meet the mission of NBC or NSWC.
15.17	1-5	Glass, C.	The Cays needs additional information about the range of possible plot and traffic plans plus the various proposed foot prints of the proposed buildings themselves. Also, what specific efforts have been, and are being, made to minimize the effect of a large, complex, and entirely new development on land immediately adjacent to their homes?	The Coastal Campus Proposed Action is still at the conceptual level in terms of building siting and does not yet include specific buildings or feature designs. Visual impacts are evaluated in Section 3.14, Aesthetics, of the EIS. This includes visual simulations of the appearance of the proposed Coastal Campus from the Coronado Cays. The intent is to incorporate sensitive architectural treatments; natural earth-tone colors; shielded outdoor lighting; and native, water-sensitive landscaping to minimize the overall visual effect of the Coastal Campus. The project footprint, at its closest point, would be approximately 580 feet from the closest residence; the northern entry control point, which would be near this closest point, would incorporate design features to minimize headlight sweep across nearby residences from vehicles exiting the campus.
15.18	1-8	Glass, C.	I am certain that those in charge of this project can do better in terms of establishing the necessity for a dialog with Coronado and specifically with the Cays. Such dialog must become a priority. The specifics of the design were all but absent from the presentations in Imperial Beach and Coronado and the EIS, except to indicate that the lead architect is "environmentally conscious". As a consequence, the slate seems to be open to all sorts of design solutions, each with a different set of impacts on the living environment adjacent to the proposed project, some less invasive,	Ongoing, established dialog between the Navy and the City of Coronado will continue. The Coastal Campus Proposed Action is still at the conceptual level in terms of building siting and does not yet include specific buildings or feature designs. Visual impacts are evaluated in Section 3.14, Aesthetics, of the EIS. This includes visual simulations of the appearance of the proposed Coastal Campus from the Coronado Cays. The intent is to incorporate sensitive architectural treatments; natural earth-tone colors; shielded outdoor lighting; and native, water-sensitive landscaping to minimize

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			some more.	the overall visual effect of the Coastal Campus. The project footprint, at its closest point, would be approximately 580 feet from the closest residence; the northern entry control point, which would be near this closest point, would incorporate design features to minimize headlight sweep across nearby residences from vehicles exiting the campus.
15.19	1-9	Glass, C.	For instance, I understand that there is already a paraloft about 5 miles up the coast in the current SEAL area, why is it necessary to build another, and if it is, why not next to or near the existing one, rather than along a designated scenic highway? What is currently being planned will degrade valuable views along that highway, and there seems to be little, if any, concern for this on the part of the Navy. The Navy can and must do better by the people of Coronado.	One of the purposes of the proposed Coastal Campus is to consolidate facilities to increase organizational efficiency, including reducing trips and travel time. Locating one of the integral projects several miles away from the rest of the campus would be counter to this purpose.
			CUMULATIVE IMPACTS	
16.1	14-3	Besikof, D.	Every minute of every day, one way or another, this project will burden the lives of those who live near it in the form of: congestion, pollution, noise and interference with the simplest daily activities of anyone within range. We are already affected.	The EIS analyzes the impacts of the Proposed Action for each resource area in Chapter 3 and cumulative impacts in Chapter 4.
16.2	28-25-1	Janney, J. (City of IB)	City of Imperial Beach Commercial Zoning Review/Update – this was a comprehensive update of all three of the City's commercial zones approved by the City Council in August 2012. The Zoning Update included the C/MU-1 Zone extending along Palm Avenue/SR-75 from the boundary with the City of Coronado to the City of San Diego. The City's environmental consultant, AECOM, prepared a Draft Program Environmental Impact Report (PEIR) in accordance with CEQA for this General Plan/Local Coastal Plan (LCP) and Commercial Zoning Amendments Project. A 45-day public review and comment period was provided pursuant to CEQA Guidelines Section 15105 for the Draft PEIR (SCH # 2011041048) from April 19, 2012 to June 4, 2012. The PEIR identified potentially significant and significant impacts that were not included, considered, or analyzed in the Navy's EIS. The PEIR determined that the proposed project could have potentially significant	Chapter 4 (Cumulative Impacts) of the Final EIS has been revised to include this project and its potential cumulative impacts.

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			environmental effects in the areas of Air Quality, Paleontological Resources, and Noise with mitigation measures identified that would reduce the potential environmental impacts to these resource areas to below a level of significance. The PEIR also found that Implementation of the proposed project would result in significant and unavoidable impacts to Greenhouse Gas (GHG) Emissions, Hydrology and Water Quality, and Transportation and Traffic. Implementation of the mitigation measures identified in the PEIR would reduce impacts to an extent; however, even with the proposed mitigation, the GHG emissions, hydrology and water quality, and transportation and traffic impacts would remain significant and unavoidable requiring the adoption of a Statement of Overriding Considerations. Transportation Demand Management (TDM) strategies are also proposed as mitigation.	
16.3	28-25-2	Janney, J. (City of IB)	Bikeway Village Project & General Plan/LCP Amendment – On May 2, 2012, the City Council adopted approved a General Plan/Local Coastal Program Amendment, the final Mitigated Negative Declaration (MND/SCH # 2012031034) and discretionary permit approval for the Bikeway Village project. Bikeway Village proposes the conversion/adaptive reuse of two approximately 15,000 square foot warehouse structures at 535 Florence, 536 13th Streets and on vacant parcel at the northern terminus of 13th Street in Imperial Beach.	Chapter 4 (Cumulative Impacts) of the Final EIS has been revised to include this project and its potential cumulative impacts.
16.4	28-25-3	Janney, J. (City of IB)	Breakwater Shopping Center – this project, which is expected to begin construction in early 2015, will be a 46,200 square feet retail shopping center at the southwest corner of 9th Street and Palm Avenue/SR-75. The project was approved by the City Council on December 14, 2011 (for which a State-mandated automatic three-year extension of time will be granted this December) along with approval of a Mitigation Negative Declaration (SCH # 2011111018). The Mitigated Negative Declaration (MND) prepared for this project and was routed for public review from November 7, 2011 to December 7,	Chapter 4 (Cumulative Impacts) of the Final EIS has been revised to include this project and its potential cumulative impacts.

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			2011 and submitted to the State Clearinghouse for agency review. The City conducted an Environmental Initial Study (IS) that determined the proposed project could have a potentially significant environmental effect in the areas of Aesthetics, Biological Resources, Cultural Resources, Geology and Soils, Hazards and Hazardous Materials, Hydrology /Water Quality, Noise, and Transportation/Traffic. However, the MND identified mitigation measures that will avoid or reduce all potentially significant environmental effects to below a level of significance.	
16.5	28-25-4	Janney, J. (City of IB)	Bicycle Transportation Plan and Eco Route Bikeway Project & General Plan/LCP Amendment – on April 1, 2009, the City Council approved an Amendment to the Circulation Element of the General Plan/Local Coastal Plan and certification of an Environmental Impact Report (EIR, SCH # 2007101061), adoption of a Bicycle Transportation Plan (BTP) with policies for bicycle facilities and route designations, and an Administrative Coastal Development Permit for a traffic calming improvement plan from 7th Street to 3rd Street within the Palm Avenue right-of-way. Among other proposed projects, these actions resulted in the reduction of Palm Avenue between 7th and 3rd streets from a four-lane street to a two-lane street with Class II Bike Lanes and on-street parking. Given that significant and potentially significant impacts to traffic and circulation have been identified in the EIS as a result of the proposed Coastal Campus project, this EIR and the Eco Route Bikeway Project should be included and analyzed in the cumulative impact analysis of the EIS.	Chapter 4 (Cumulative Impacts) of the Final EIS has been revised to include this project and its potential cumulative impacts.
16.6	28-25-5	Janney, J. (City of IB)	Palm Avenue and Carnation Avenue Street End Project – this is a Port of San Diego project for the improvement of two City street ends, Palm Avenue and Carnation Avenue, between Seacoast Drive and the beach. The project was designed and intended to provide improved and enhanced coastal access to and along the beach. The Palm Avenue Street End portion of the project has been constructed, however, the Carnation Avenue portion is dependent upon the	Chapter 4 (Cumulative Impacts) of the Final EIS has been revised to include this project and its potential cumulative impacts.

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			granting of a 20-foot easement by and from the Navy and this portion of the project is, as yet, unfunded. An environmental impact report was prepared, circulated for public review and approved by the City for this project in August of 2006 (SCH # 200231106).	
16.7	28-25-6	Janney, J. (City of IB)	Palm Avenue Mixed Use & Commercial Corridor Master Plan – the City completed and the City Council approved the Palm Avenue Commercial Corridor Master Plan Study in February 2009 which proposed right-of-way improvements for the Palm Avenue/SR-75 corridor focused on improving pedestrian safety and walkability, enhancing the corridor's overall aesthetics and appearance, and improving functionality of the vehicular corridor while maintaining acceptable traffic levels of service in order to create a "main street" environment. In July 2013, SANDAG awarded grant funding to the City to prepare design drawings for the Palm Avenue Mixed Use and Commercial Corridor Master Plan and to prepare an environmental review document for this project. Work began on this effort in January 2014 and continues today. City staff has been closely coordinating with Caltrans and SANDAG and with the City's residents and businesses in the preparation of the drawings. The City has also engaged the Navy in the design and outreach effort. Given that significant and potentially significant impacts to traffic and circulation have been identified in the EIS as a result of the proposed Coastal Campus project, this EIR and the Palm Avenue Mixed Use and Commercial Corridor Project should and must be included in the cumulative impact analysis of the EIS.	Chapter 4 (Cumulative Impacts) of the Final EIS has been revised to include this project and its potential cumulative impacts.
16.8	28-26	Janney, J. (City of IB)	The indoor shooting range (MILCON P-876) that was given a Categorical Exclusion but details of the project were not provided to the City. The Court ruled in the street ends lawsuit against the City of Imperial Beach and the San Diego Port District that separate projects need to be cumulatively analyzed in the environmental document and cannot be excluded. The City needs details of the project in order to conduct an	MILCON P-876 was a separate and independent action that the Navy determined to be Categorically Excluded under NEPA. This action is described in Table 4-1 of the EIS and is cumulatively considered for the Proposed Action. The Navy planning and projects are driven in many cases by world events. The Navy needs to be able to react quickly and provide appropriate training

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			adequate analysis of cumulative impacts in the City's environmental documents.	and support facilities.
16.9	28-27	Janney, J. (City of IB)	The City requests that the Navy carefully consider the potential impacts to Imperial Beach that SLR may have as in connection with the development of the proposed Coastal Campus.	The Navy has revised the EIS in Chapter 4 to address the effects that climate change, including sea level rise, may have on the Proposed Action site and surrounding areas, including Imperial Beach.
16.10	29-1	Goforth, K. M. (USEPA)	The proposed development site, on a low-laying coastal peninsula that currently experiences flooding and sea-water infiltration, is vulnerable to climate change effects, particularly sea-level rise and potentially increased incidence and severity of winter storms and erosion. The DEIS does not discuss these effects, nor does it incorporate adaptation measures to protect the project. Adaptation measures, themselves, may have environmental impacts that should be evaluated. The lack of adaptation measures for development on a site with a high coastal vulnerability to sea level rise appears inconsistent with the President's Climate Action Plan and the direction of *Executive Order 13653 - Preparing the United States for the Impacts of Climate Change*, which encourages actions by the Federal government to enhance climate preparedness and resiliency in its programs and operations.	The Navy has revised the EIS in Chapter 4 to address the effects that climate change, including sea level rise, may have on the Proposed Action site and surrounding areas. Edits have also been made to the project description in Chapter 2 to include adaptation measures, which are then evaluated as part of the Proposed Action in the subsequent resource analyses in Chapter 3 and cumulative impact analyses in Chapter 4.
16.11	29-3	Goforth, K. M. (USEPA)	EPA is particularly concerned by the DEIS' lack of discussion of the potential environmental impacts of the project in the context of reasonably foreseeable climate change effects. In particular, sea level rise—coupled with potential increased frequency and severity of heavy rainfall events and flooding, especially during high tides, winter storms, and when exacerbated by El Niño occurrences—could significantly impact the coastal site due to its low elevation and existing flooding issues.	The Navy has revised the EIS in Chapter 4 to address the effects that climate change, including sea level rise, may have on the Proposed Action site and surrounding areas. Edits have also been made to the project description in Chapter 2 to include adaptation measures, which are then evaluated as part of the Proposed Action in the subsequent resource analyses in Chapter 3 and cumulative impact analyses in Chapter 4.
16.12	29-4	Goforth, K. M. (USEPA)	It is important that adaptation measures be identified and evaluated in the impact assessment, since some measures could have significant impacts to environmental resources (e.g. sea walls or massive soil importing).	The Navy has revised the EIS in Chapter 4 to address the effects that climate change, including sea level rise, may have on the Proposed Action site and surrounding areas. Edits have also been made to the project description in Chapter 2 to include adaptation measures, which are then evaluated as part of the Proposed Action in the

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				subsequent resource analyses in Chapter 3 and cumulative impact analyses in Chapter 4.
16.13	29-5	Goforth, K. M. (USEPA)	The project description in the DEIS does not identify or imply any adaptation measures to increase resilience of the proposed project to climate change. Rather, the DEIS indicates that construction of the proposed military construction projects would be accomplished without substantial changes to the existing landform (p. 3.2-7).	The project description has been edited. The Navy has revised the EIS in Chapter 4 to address the effects that climate change, including sea level rise, may have on the Proposed Action site and surrounding areas. Edits have also been made to the project description in Chapter 2 to include adaptation measures, which are then evaluated as part of the Proposed Action in the subsequent resource analyses in Chapter 3 and cumulative impact analyses in Chapter 4.
16.14	29-6	Goforth, K. M. (USEPA)	*Recommendation:* Because of the high-risk and vulnerability of the project site to the impacts of climate change – in particular, sea level rise – and the potential for adverse environmental impacts to occur as a result of measures that may be needed to reduce this vulnerability, we recommend that the Final EIS include an analysis of climate change effects on the proposed action. Include a more robust assessment of impacts from flooding from more frequent and severe storms, El Nino events, high tides along with predicted sea level rise and coastal erosion at the site. Describe the potential effects of sea-level rise on project infrastructure, including water, wastewater, stormwater facilities, roads, underground storage tanks, and existing leach fields. Identify adaptation measures that can be integrated into the project to increase its resilience to climate change effects and to minimize effects on project infrastructure. Evaluate impacts of these adaptation measures on environmental resources. The FEIS should also identify the cumulative impacts that climate change will contribute to resources that are also effected by the project, including habitat, special status species, and effects on contaminated areas at the development site.	This recommendation has been followed. The Navy has revised the EIS in Chapter 4 to address the effects that climate change, including sea level rise, may have on the Proposed Action site and surrounding areas. Edits have also been made to the project description in Chapter 2 to include adaptation measures, which are then evaluated as part of the Proposed Action in the subsequent resource analyses in Chapter 3 and cumulative impact analyses in Chapter 4.
16.15	34-2	City of Coronado	The City in concert with Imperial Beach requests that the Navy partner with surrounding communities and take a more responsible, pro-active approach to its proposed action and associated environmental impacts, and undertake creative project	The Navy has been a good neighbor for nearly 40 years and will continue to work with adjacent Cities to minimize impacts of its operations on the local community. The Navy conducted an extensive environmental analysis process that determined the significant

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			modifications/adjustments or additional mitigation measures to further minimize the impacts associated with this project to the adjoining communities of Coronado and Imperial Beach.	impacts of the proposed Coastal Campus and provided an extensive list of impact avoidance and minimization measures and specific mitigation measures.
16.16	34-3	City of Coronado	As you know, our community is already significantly impacted with traffic on all major arterials leading to and from the two existing naval bases within the community during morning and afternoon commuter traffic, including nearby residential streets that are also affected. There is noise from traffic and aircraft activities at North Island and associated degraded air quality (residual soot from traffic, truck and airplane exhaust). Impacts also include emergency support services such as fire and police for enforcing traffic laws and responding to incidents; and ever diminishing public access along coastal shorelines due to training activities and endangered biological resources. The increased impacts to these already stressed resources due to the Coastal Campus project will undoubtedly result in additional, significant, and adverse cumulative environmental impacts to the community.	The Navy has been a good neighbor for nearly 40 years, and will continue to work with adjacent Cities to minimize impacts of its operations on the local community. The Navy conducted an extensive environmental analysis process that determined the significant impacts of the proposed Coastal Campus and provided an extensive list of impact avoidance and minimization measures and specific mitigation measures.
16.17	34-4	City of Coronado	Each of these environmental documents has failed to analyze the cumulative impacts of past, present, and reasonable foreseeable future actions and projects at this Campus. All of the documents have independently concluded there are no significant or cumulatively significant environmental impacts.	Both the Silver Strand Training Complex EIS and the MH-60R/S Helicopter Transition Environmental Assessment (EA) addressed cumulative impacts from numerous past, present, and reasonably foreseeable future actions. An extensive cumulative impacts analysis in compliance with NEPA was prepared for each document, and the results of these analyses were that there were no significant cumulative impacts.
16.18	34-5	City of Coronado	The City believes the Congressionally mandated needs and directives to the U.S. Navy, and focused by the Navy at its facilities on Naval Base Coronado are leading to increased personnel, facilities, activities, training, and infrastructure within one small geographic area, and within the City of Coronado.	With the long-term establishment of several key strategic Navy installations on Coronado, Congressionally mandated growth of NSW based on world events has occurred.
16.19	34-6	City of Coronado	The City believes there are environmental impacts associated with these expanded actions on: traffic levels, services, aesthetics, and noise to name a few. The intensity of actions and scope of development	As stated in Section 4.1 of the EIS, the cumulative analysis addressed “the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable

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			should not exceed the environmental carrying capacity of the Silver Strand and the community of Coronado as a whole. Further project modifications are necessary to minimize both short-term and long-term environmental impacts associated with the Special Warfare Command planned operations at the Coastal Campus, and the cumulative impacts of the Naval Base Coronado operations on the City as a whole.	future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Geographical boundaries for analyses of cumulative impacts in this EIS vary for different resources and environmental media. Identifiable effects of actions occurring in the past and present are analyzed, along with reasonably foreseeable future actions to assess additive impacts of the Proposed Action alternatives. In general, the Navy need not list or analyze the effects of individual past actions; cumulative impacts analysis of past actions focus on aggregate effects. Reasonably foreseeable future actions that may have impacts additive to the effects of the Proposed Action were also analyzed. The EIS considered 51 past, present, and reasonably foreseeable future projects in the cumulative analysis. The Coastal Campus EIS also analyzed all potential project-specific impacts and cumulative impacts, and proposed impact avoidance and minimization measures, along with specific mitigation measures.
16.20	34-7	City of Coronado	The EIS prepared for the Silver Strand Training Complex (SSTC) in 2010 did not address the “NBC Coastal Campus” project in the cumulative analysis section.	The 2006 and 2010 Quadrennial Defense Reviews (QDRs) identified the need for additional Special Operation Forces, and several years of specific planning were required by the Navy to determine how to achieve the QDR requirements. This is discussed in Section 1.2, Background, and Section 2.3, Development of Alternatives of the EIS. Therefore, at the time of the preparation of the Silver Strand Training Complex EIS, the Coastal Campus action was not defined or known.
16.21	34-8	City of Coronado	Additionally, The EIS prepared for the Helicopter Wings Realignment project in 2011 did mention the project (at that time called “Navy Special Warfare Master Plan SSTC) in the cumulative analysis section; however, indicated it was not feasible to analyze the project because the details were not known.	Although the Navy Special Warfare Master Plan SSTC (Coastal Campus) was mentioned in the cumulative analysis of the MH-60R/S Helicopter Transition EA, the Coastal Campus project was still in the early planning phase, and little definitive information was known about the funding, potential projects, or possible location(s).
16.22	34-9	City of Coronado	These examples, alone, demonstrate that the environmental analysis for the growth that is occurring within NBC Coronado is being segmented/bifurcated over several different EIS documents.	Both the Silver Strand Training Complex EIS and the MH-60R/S Helicopter Transition EA addressed cumulative impacts from numerous past, present, and reasonably foreseeable future actions. An extensive cumulative impacts analysis

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				in compliance with NEPA was prepared for each document, and the results of these analyses were that there were no significant cumulative impacts.
16.23	34-10	City of Coronado	The City disagrees with the cumulative impacts analysis that concludes that there will not be significant Traffic, Noise, Aesthetic, and Coastal impacts. The proposal is essentially adding/developing a 3rd active military base as part of Naval Base Coronado.	As is described in Section 1.3, Purpose and Need, and Section 2.3, Development of Alternatives, the proposed Coastal Campus is needed due to a lack of adequate space. Consolidating NSW at the Coastal Campus would eliminate current overcrowding at NAB Coronado. The operation of the Proposed Action does not generate significant new operational vehicle trips because it would involve the relocation of military personnel from SSTC-North to SSTC-South. New growth is not planned at NAB Coronado at this time; however, the EIS did account for, and analyzed, an increase of approximately 1,000 new personnel from other Navy tenants to fill the vacancy at NAB Coronado (Section 3.9.2.4). NAB Coronado is built out and no redevelopment or other substantial renovations are proposed. The Navy is subject to responding to worldwide events and must be as flexible as possible to address any immediate threats at home and abroad. Planned facilities are subject to world trends and fluctuating Federal funding. The Navy NEPA documents have analyzed and continue to analyze impacts, both project-specific and cumulative, based on the information available at the time the documents are being prepared. The Navy will address a Transportation Demand Management Plan via the Traffic Advisory Committee.
16.24	34-11	City of Coronado	The expansion and built-out occurring now will lead to future expansions and intensification of activities because the structures, facilities, and infrastructure will be in place to accommodate the growth. The EIS does not adequately analyze the cumulative impacts associated with this project and eventual re-development that will occur at Naval Amphibious Base with the demolition of buildings and removal of activities.	As is described in Section 1.3, Purpose and Need, and Section 2.3, Development of Alternatives, the proposed Coastal Campus is needed due to a lack of adequate space. The existing facilities are undersized, outdated, and functionally obsolete. Consolidating NSW at the Coastal Campus would eliminate current overcrowding at NAB Coronado. New growth is not planned at NAB Coronado at this time; however, the EIS did account for, and analyzed, an increase of approximately 1,000 new personnel from other Navy tenants to fill the vacancy at NAB Coronado (Section 3.9.2.4).
16.25	34-12	City of Coronado	What is the long range plan for the Naval Amphibious Base (NAB)	NAB Coronado will continue to function in its current capacity as described in

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			Coronado? As noted on page ES-4, *"NAB is home to nearly 6,000 active duty, selected reserve military, and civilian personnel and is the only naval amphibious installation on the west coast and one of two amphibious installations in the U.S.* NAB Coronado serves as the base of operations for the Commander of Naval Special Warfare Command.	Section 1.4.2 of the EIS. New growth is not planned at NAB Coronado at this time; however, the EIS did account for, and analyzed, an increase of approximately 1,000 new personnel from other Navy tenants to fill the vacancy at NAB Coronado (Section 3.9.2.4).
16.26	34-13	City of Coronado	What will happen to land uses and area utilized at NAB that are being transferred to Silver Strand South Complex? The EIS does not address these future land uses.	New growth is not planned at NAB Coronado at this time; however, the EIS did account for, and analyzed, an increase of approximately 1,000 new personnel from other Navy tenants to fill the vacancy at NAB Coronado (Section 3.9.2.4).
16.27	34-14	City of Coronado	What is the long range plan for NAB and when will "redevelopment" occur? The EIS does not address the replacement buildings and uses at NAB, and is flawed in its cumulative analysis.	Redevelopment of NAB Coronado is not proposed at this time. NAB Coronado will continue to function in its current capacity. New growth is not planned at NAB Coronado at this time; however, the EIS did account for, and analyzed, an increase of approximately 1,000 new personnel from other Navy tenants to fill the vacancy at NAB Coronado (Section 3.9.2.4).
16.28	34-15	City of Coronado	The cumulative impact cannot be adequately analyzed by the Navy without a Master Plan document for Naval Base Coronado. Does a Master Plan document exist? If a document exists, the EIS should identify and analyze the activities, buildings, and infrastructure planned in the cumulative analysis section. If a Master Plan does not exist, one should be prepared so the Navy can adequately analyze impacts associated with planned base activities within the City of Coronado. Preparation of a Master Plan does not seem to be uncommon as reference was made to the development of a Naval Special Warfare Master Plan for Silver Strand Training Complex in the cumulative analysis section of the EA prepared [red for the Helicopters Wings Realignment project in 2011.	NAB Coronado is built out and no redevelopment or other substantial renovations are proposed. A military base master plan is not like a municipal master plan. The Navy is subject to responding to worldwide events and must be as flexible as possible to address any immediate threats at home and abroad. Planned facilities are subject to world trends and fluctuating Federal funding. The Navy NEPA documents have analyzed and continue to analyze impacts, both project-specific and cumulative, based on the information available at the time the documents are being prepared.
16.29	34-16	City of Coronado	Without a Master Plan, each individual unit stationed within NBC develops its own plan for expanded facilities based upon its own operations needs and mission. Each activity then undertakes its own separate environmental analysis irrespective of the other planned undertakings of a sub-base or the NBC as a whole. Environmental	NAB Coronado is built out and no redevelopment or other substantial renovations are proposed. A military base master plan is not like a municipal master plan. The Navy is subject to responding to worldwide events and must be as flexible as possible to address any immediate threats at home and abroad. Planned facilities are

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			review has become segmented with individual environmental review occurring for pieces of a larger overall picture; the Master Plan and mission for the Navy and NBC.	subject to world trends and fluctuating Federal funding. The Navy NEPA documents have analyzed and continue to analyze impacts, both project-specific and cumulative, based on the information available at the time the documents are being prepared.
16.30	34-17	City of Coronado	The City supports the mission of the Navy, the military personnel, and their families. **The City is requesting that the Navy support Coronado, and complete a thorough cumulative impact analysis of its past, current, and planned facilities and operations for Naval Base Coronado.**	The Coastal Campus EIS addressed cumulative impacts (Chapter 4, Cumulative Impacts). The request for a larger-scale cumulative analysis of past, present, and planned facilities and operations for NAB Coronado is not within the scope of this EIS.
16.31	34-53	City of Coronado	Page 2-11 under Alternative 1 notes there is *"an unprepared helicopter landing zone and flight path."* Is the long term plan for an "improved" helicopter landing area? It is noted that the SSTC identified increased helicopter squadrons and activities at the site; however, it is interesting to note that the infrastructure improvements necessary to support the increased air ops are addressed within this Environmental document. It is not clear why the "activities" were analyzed in a separate environmental document from the infrastructural needs (new landing area). This is another example of how environmental impacts associated with planned operations is bi-furcated into various environmental documents. In this case, an EIS was completed for increased training activities and helicopter exercises, and a second EIS is being completed for infrastructure and support facilities to accommodate the growth at Coastal Campus. The EIS should identify the extent of "improvements" planned for the helicopter landing area. For example, what is the size of the existing and proposed "improved" landing area? Will new lighting be associated with the improvements? The EIS should identify and analyze what type of impact the alterations/ expansions/improvements to the landing area will have on the type, quantity, duration, and hours of helicopter activities utilizing the Coastal Campus and associated noise generated from improved landing facilities.	The Coastal Campus does not propose any changes to existing or planned aircraft operations, or improvements to a helicopter landing zone. The proposed Coastal Campus infrastructure improvements do not include a new landing area or support an increase in air operations. The existing unprepared helicopter landing zone is within the helicopter restricted flight path area shown in Figure 2-2 of the EIS. Chapter 4 of the EIS discusses the cumulative impacts of the past, present, and foreseeable projects occurring in the vicinity of the proposed Coastal Campus development that were included in other NEPA documents.

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16.32	58-2	Butler, H. & E.	We have many reservations about this project, due to the inadequate analysis of the "accumulative" environmental impacts and the choice to disturb pristine coastal and historical property along a state designated Scenic Highway and a federal National Wildlife Preserve. We think no project should proceed on this property at this time, without comprehensive review and responses to the many questions posed.	In Chapter 3, the EIS analyzes the impacts of the Proposed Action for each resource area. The Navy conducted an extensive environmental analysis process that determined the significant impacts, and provided an extensive list of impact avoidance and minimization measures, along with specific mitigation measures. Chapter 4 of the EIS discusses the cumulative impacts of the past, present, and foreseeable projects occurring in the vicinity of the proposed Coastal Campus development that were included in other NEPA documents. As required, the Navy consulted with the U.S. Fish and Wildlife Service under the Endangered Species Act, and an Informal Consultation Concurrence Letter was issued with impact avoidance and minimization measures. All comments submitted have been reviewed and responses provided. Where appropriate, the EIS has been revised.
16.33	61-1	Hillger, C.	I am against more military development along the beautiful Silver Strand area. A project like this will only increase traffic along State Route 75, add to noise levels, increase air and water pollution and destroy nesting areas for migrating bird species. The Navy continues to portion out their EIS 'development projects' one by one, when taken as a whole continues to impact the residence of both Coronado and Imperial Beach negatively. Totally against any of these proposals.	In Chapter 3, the EIS analyzes the impacts of the Proposed Action for each resource area. The Navy conducted an extensive environmental analysis process that determined the significant impacts, and provided an extensive list of impact avoidance and minimization measures, along with specific mitigation measures. Chapter 4 of the EIS discusses the cumulative impacts of the past, present, and foreseeable projects occurring in the vicinity of the proposed Coastal Campus development that were included in other NEPA documents. All comments submitted have been reviewed and responses provided. Where appropriate, the EIS has been revised.
16.34	1-7	Glass, C.	It has been stated that the Navy intends to increase the SEALS presence in the Coronado area, not just that some operations are to be consolidated in Coastal Campus facility. No mention is made of demolishing buildings where those operations are currently being housed. The net increase in traffic, noise and light cannot help but be considerable. As mentioned above, so far the Navy does not appear to have made any meaningful plans to mitigate these impacts.	Redevelopment of NAB Coronado is not proposed at this time. NAB Coronado will continue to function in its current capacity. New growth is not planned at NAB Coronado at this time; however, the EIS did account for, and analyzed, an increase of approximately 1,000 new personnel from other Navy tenants to fill the vacancy at NAB Coronado (Section 3.9.2.4).

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17.1	5-1	Cole, R.	Please post a banner at the Palm Avenue entrance to the city advertising the public comment and education meetings (similar to Farmer's Market banner).	The meeting dates, times, and locations were published in the Federal Register, in the local newspapers, and on the project website (nbccoastalcampuseis.com).
17.2	12-1	Orr, D.	I have no issues with this project. If the Navy needs to complete their mission, build it! If they don't, don't.	Thank you for your comment. As described in Purpose and Need (Section 1.3), Development of Alternatives (Section 2.3), Alternatives Considered but Not Carried Forward for Detailed Analysis (Section 2.4), and Alternatives Carried Forward for Analysis (Section 2.5) in the EIS, the SSTC-South location is the only location that meets the Navy's needs.
17.3	12-2	Orr, D.	And, please don't waste money on birds, vernal pools, and old gun batteries!	As required, the Navy consulted with the U.S. Fish and Wildlife Service under the Endangered Species Act, and an Informal Consultation Concurrence Letter was issued with impact avoidance and minimization measures. The Navy also consulted, as required, with the State Historic Preservation Officer under Section 106 of the National Historic Preservation Act (NHPA) for concurrence on recommendations of cultural resource noneligibility and for development and implementation of a Memorandum of Agreement to address adverse effects to the bunker.
17.4	14-5	Besikof, D.	Public notice concerning this project has been disproportionately small compared to its impact. Why wasn't your report in full in the Coronado and Imperial Beach Eagle Journals, to give people an opportunity to understand what it means? Not many of our citizens know how to locate information that affects them in the Federal Register!	The meeting dates, times, and locations were published in the San Diego Union-Tribune, Enlace (Spanish newspaper), Coronado Eagle, and the Imperial Beach Eagle and Times, Federal Register, and on the project website (nbccoastalcampuseis.com).
17.5	14-6	Besikof, D.	It is my hope, if you genuinely wish to notify this community of what you are doing, that you will have personnel engaged in this project present, to be introduced and to answer questions.	Personnel engaged in the project were present, introduced, and answered questions at the public meetings in Imperial Beach and Coronado.
17.6	16-1	Anderson, S.	As a Navy junior living in the Village, I fully support the need to upgrade Navy Special Forces training facilities.	The Navy appreciates your support.
17.7	17-1	Ashman, J.	I support the Navy plan. They have done a great job of mitigating issues. Our Navy supports our community.	The Navy appreciates your support.
17.8	20-2	Toler, D. (San Pasqual	The San Pasqual Band of Diegueño Mission Indians understands and agrees that The Department of Navy – Naval Base Coronado is in need of	The Navy appreciates the support of the San Pasqual Band of Mission Indians.

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		Band)	adequate facilities to support west coast growth of NSWC and to maintain the required levels of operational readiness of special warfare forces.	
17.9	22-2	Merrill, R.	If this is the sign of things to come, we as residents WILL rally against this proposal. It is obvious that the Navy and those in charge of this site have no regard for the residents here.	The Navy has been a good neighbor for nearly 40 years and will continue to work with the adjacent Cities to minimize impacts of Navy operations on the local community. The Navy conducted an extensive environmental analysis process that determined the significant impacts, and provided an extensive list of impact avoidance and minimization measures, along with specific mitigation measures.
17.10	25-1	Williamson, L.	I support the City of Coronado in their concerns about the Navy's Coastal Campus. Especially on the environmental impact to the wetland and coastal habitat of wildlife.	See responses to City of Coronado's comments (34-1 through 34-74).
17.11	27-1	Walter, S.	As a reaction to the Global War on Terrorism, I strongly support the proposed coastal campus resolution to provide adequate facilities to support the Congressionally mandated growth of NSWC (Naval Special Warfare Center) on the west coast and (2) maintain the required levels of operational readiness of special warfare forces, as mandated by Title 10 U.S.C. § 167.	The Navy appreciates your support.
17.12	29-10	Goforth, K. M. (USEPA)	LEED Certification – The DEIS does not state that the new campus facilities will be green building certified under Leadership in Energy and Environmental Design (LEED) or another system. LEED is mentioned in the noise chapter where it states that new facilities would include LEED-certified heating, ventilation and air conditioning components to minimize noise (p. 3.6-15), and LEED is also mentioned in the avoidance and minimization measures for migratory birds, noting that bird-friendly designs can contribute to LEED certification (p. 5-18). We understand that it has been a DoD policy that new buildings will be certified LEED Silver. Please confirm in the FEIS that the NBC Coastal Campus facilities would be constructed to meet LEED Silver certification standards. We also understand that passage of the National Defense Authorization Act for fiscal year 2014 now allows DoD to pursue LEED Gold or Platinum	The minimum goal of this project is to meet the standards required for LEED Silver. The Navy does not go through the certification process but would meet LEED Silver requirements, at a minimum. The text referenced in Chapters 3 and 5 has been edited for clarity.

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			certification. We recommend that the FEIS discuss the possibility of pursuing the highest feasible LEED or equivalent certification for the campus.	
17.13	32-1	Sanderson, P. (USDOI)	The Department of the Interior has received and reviewed the subject document and has no comments to offer.	The Navy appreciates your review and participation in the NEPA process.
17.14	34-1	City of Coronado	After review, the City has determined that further analysis is warranted for the project; particularly as it relates to Alternative I and associated Traffic and Circulation; Utilities and Services; Aesthetics; Noise; and Cumulative Impacts.	The Navy has reviewed the City of Coronado's comments, revised the Final EIS as appropriate, and responded to each comment to provide clarification and, where necessary, additional detail.
17.15	34-73	City of Coronado	Public Review and Hearings: As requested previously, the City requests that all review hearings for this project by other agencies, such as the Coastal Commission, occur in San Diego to provide the City and the public with the greatest opportunity to participate in the NEPA/Coastal review process.	The Navy does not control the venues for review hearings by other agencies.
17.16	34-74	City of Coronado	Record of Decision: As requested previously, the City requests a 45-day review period of the Final Environmental Impact Statement (FEIS) along with an additional public hearing conducted by the Navy to provide a second opportunity for the public to comment on the document, with responses from the Navy, before the Secretary of the Navy signs the Record of Decision.	The Navy initiated this project through the scoping process by publication of the NOI in the *Federal Register* and local newspapers (San Diego Union-Tribune, Enlace (Spanish newspaper), Coronado Eagle, and the Imperial Beach Eagle and Times). The NOI invited agencies, organizations, and the general public to provide written comments about the Proposed Action and issues to be addressed in the EIS. The notices also announced two public meetings (Marina Vista Community Center, Imperial Beach; and Coronado Public Library, Coronado). The Navy provided a 45-day scoping period. The Draft EIS was prepared and a Notice of Availability and Notices of Public Hearings (two public meetings) were published in the *Federal Register* and in the same local newspapers. The Navy provided a 60-day public review period. Additionally, the EIS was made available for general review at three public libraries (Imperial Beach Library, Coronado Public Library, and City of San Diego Central Library) in the local area, and on the project website (www.NBCCoastalCampusEIS.com). The Navy's willingness to extend the public review period following release of the Draft EIS underscores the value the

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				Navy places on its relationship with its municipal neighbors, including the City of Coronado. The Navy has considered the City's request for a 15-day extension to the 30-day wait period following release of the Final EIS but has decided to maintain the length of the wait period at 30 days.
17.17	35-1	Durgin, H.M.	The Board of the Coronado Cays Homeowners Association (CCHOA) strongly supports the Coronado City's letter and attached comments to the above referenced document as it relates to Alternative 1 and associated Traffic and Circulation; Utilities and Services; Aesthetics; Noise; and Cumulative Impacts.	See responses to City of Coronado comments (34-1 through 34-74).
17.18	35-2	Durgin, H.M.	The proposed NBCCC will clearly have significant negative impacts for the lives of our Association's residents. In addition, the Village of Coronado and the city of Imperial Beach will experience major impacts that need to be fully understood and properly mitigated.	The Navy has been a good neighbor for nearly 40 years and will continue to work with the adjacent Cities to minimize impacts of Navy operations on the local community. The Navy conducted an extensive environmental analysis process that determined the significant impacts, and provided an extensive list of impact avoidance and minimization measures, along with specific mitigation measures.
17.19	35-3	Durgin, H.M.	We therefore urge you to carefully review and respond to the Coronado City's request that follow-on additional environmental analysis be conducted and their concerns and comments be addressed in the Final Environmental Impact Statement. There are some particular areas that the Coronado Cays Homeowners believe must be addressed and made public. These include: 1. A full analysis of the cumulative impacts of the four Navy environmental documents in the past years. 2. The need for the Navy to develop, commit, and implement a Transportation Reduction/Improvement Program for the NBCCC. 3. Confirmation that sufficient utilities and public services are available for the Coastal Campus. 4. Any potential increased noise levels are properly mitigated. 5. The Navy respect that SR-75 known as the Silver Strand is a legislatively designated State Scenic Highway which has	See responses to City of Coronado comments (34-1 through 34-74).

No.	Doc. #/ Comment #	Commenter	Comment	Response
			mandated guidelines to preserve and enhance this coastal resource.	
17.20	36	Merrill, S.R.	(Duplicate of comments 22-1 through 22-4.)	See responses 22-1 through 22-4.
17.21	37-2	Benham, R.	The data would show a great disparity compared to neighboring communities. Please see pages 61 to 92 of the attached book for a description of the Pacific Coast Historical (PCH) Dinner Show. The Navy's "story" regarding its influence and history in the San Diego Area is included in the script of this show. The Imperial Beach area has been part of this story too; therefore, the Navy should support this effort.	Support for specific community organizations is not part of the Coastal Campus Proposed Action.
17.22	37-3	Benham, R.	Our proposal for the PCH Dinner Show was 1 of 7 proposals submitted in response to the Port District's August 2012 solicitation for Letters of Interest for options regarding the use of Pond 20. Five of the seven were "Land Mitigation" proposals. Already, without any vote or referendum from the local population, nearly 90% of the original 836 acre Western Salt property has been used for land mitigation to offset economic development to the North. The last remaining 95 acre parcel, Pond 20, was originally "set aside for economic development" by the Port District. It would be a travesty of justice for the historically deprived Imperial Beach area to be denied the opportunity for economic development of Pond 20. We are asking the Navy to support economic development of Pond 20.	Support for specific community organizations is not part of the Coastal Campus Proposed Action.
17.23	39-1	Sorrels, E.	I am absolutely for this program in any way, shape, or fashion that the Navy wants to do it.	The Navy appreciates your support.
17.24	45-1	Besikof, D.	It does not seem credible to me that you can do a study and claim that there is zero environmental impact in this.	The EIS identified numerous impacts, including potentially significant impacts to traffic, biological resources, and cultural resources. Chapter 5 of the EIS also provided an extensive list of impact avoidance and minimization measures.
17.25	45-4	Besikof, D.	President Eisenhower, from the day he took office until the day he left office, cautioned people about imbalance between the military and civilian groups in our country. This just seems so overwhelming that the balance would be lost if you do this. And they would have nothing to say about it.	The environmental (National Environmental Policy Act) process, by law, provides numerous opportunities for the public to provide input on a proposed Federal action.

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17.26	45-5	Besikof, D.	I was at a gathering, where a fairly high-ranking individual told me my concerns were – he said, and I quote, "The price of freedom." I believe if you raise the price this high, then you are taking away freedoms that we are entitled to enjoy as citizens of our country.	Thank you for your comment.
17.27	47-1	Glass, C.	When and where are these meetings to take place?	The meetings dates, times, and locations were published in the Federal Register, in the local newspapers, and on the project website (nbccoastalcampuseis.com).
17.28	53-1	Giffen, J. (Port of SD)	The Port recently completed the twelve-acre Emory Cove restoration project, which is located adjacent to the Silver Strand Complex Training Complex South, along its northeastern boundary. To help ensure that the recently restored Emory Cove area is not adversely impacted by the proposed NBC Coastal Campus Project, the Port requests that Figure 2-2 SSTC-South Existing Development Considerations Map classify the Emory Cove site as an Environmentally Sensitive Area (ESA). For easy reference, attached is a figure that shows the boundaries of the Emory Cove restoration project superimposed on EIR Figure 2-2.	Figure 2-2 has been updated to include the Emory Cove restoration area.
17.29	56-1	Grubb, P.	We have carefully reviewed the Draft EIS for the Coastal Campus along with the responses from the City of Coronado and the Coronado Cays Homeowners Assoc. As a resident of the Coronado Cays, this installation will have a major impact on our quality of life. Noise, visual aspects and traffic will all be negatively affected. Consider that those of living in the Cays have only two ways in or out of our community, north on the Strand to the village, or south within your campus area. We urge you to please carefully consider the response from the City (4 Sept City manager) and alleviate those concerns as best you can.	See responses to City of Coronado comments (34-1 through 34-74).
17.30	58-1	Butler, H. & E.	I am writing to make comment on the EIS for the proposed Coastal Campus. I concur and support the spirt and detailed observations and questions put forth in the City of Coronado's official comment letter. I also support the letter put forth by the Coronado Cays Homeowners Association (CCHOA).	See responses to City of Coronado comments (34-1 through 34-74) and the Coronado Cays Homeowners Association comments (35-1 through 35-3).

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17.31	62-1	Downey, C.	I agree with and incorporate all of the concerns raised by the cities of Coronado and Imperial Beach in these comments but include several other concerns and mitigation suggestions to assist in mediating the impacts.	See responses to City of Imperial Beach (28-1 through 28-30) and City of Coronado comments (34-1 through 34-74).
17.32	62-12	Downey, C.	Finally, the NBC Coastal Campus project is being justified in the EIS by vague statements that Congress directed the Navy to do something. The exact language of that directive should be provided. Unless Congress included a specific waiver of NEPA in that directive, all actions are required to be done in accordance with existing laws. Thank you for the opportunity to provide comments.	Title 10 U.S. Code (U.S.C.) Section 167 is cited in the EIS as providing part of the purpose of the Proposed Action, and Congressionally mandated expansion of USSOCOM SOF personnel through the 2006 and 2010 Quadrennial Defense Review reports is also cited in the EIS. These readily available sources are not reproduced in the EIS. No waiver of NEPA is relevant to the Proposed Action. This EIS was prepared in compliance with the National Environmental Policy Act of 1969, which is found at 42 U.S.C. Sections 4321–4370h. The Regulations for Implementing NEPA, which are promulgated by the President's Council on Environmental Quality, are found at 40 Code of Federal Regulations (CFR) Sections 1500–1508. The Navy's Procedures for Implementing NEPA are found at 32 CFR Section 775.
17.33	64-1	Elwell, J.	I WOULD DISAGREE with the purpose of this proposal that it is needed not because current facilities are obsolete and for the purported Global War on Terrorism (Terrorism is not new in warfare) since the 911 attack on the World Trade Center. In fact these facilities are duplicate of what already exist and not a good reason to to expand and build a new Special Warfare School for modernization of classrooms, duplicating already existing areas for physical fitness areas, equipment maintenance, and in water training, and another parachute loft. I cannot believe the excuse to consolidate command elements into newer nicer buildings that will also be obsolete. The real reason is to justify the use to this formerly prime public land and move off the current Naval Base as elitists.	Title 10 U.S. Code (U.S.C.) Section 167 is cited in the EIS as providing part of the purpose of the Proposed Action, and Congressionally mandated expansion of USSOCOM SOF personnel through the 2006 and 2010 Quadrennial Defense Review reports is also cited in the EIS. As described in Purpose and Need (Section 1.3), Development of Alternatives (Section 2.3), Alternatives Considered but Not Carried Forward for Detailed Analysis (Section 2.4), and Alternatives Carried Forward for Analysis (Section 2.5) in the EIS, the SSTC-South location is the only Navy-owned location that meets the Navy's needs.
17.34	64-5	Elwell, J.	I WOULD AGREE WITH CORONADO MAYOR CASEY TANAKA, "Working with the Navy has been incredibly frustrating." "The Navy holds the cards to its vest."	The Navy initiated this project through the scoping process by publication of the NOI in the *Federal Register* and local newspapers (San Diego Union-Tribune, Enlace (Spanish newspaper), Coronado Eagle, and the Imperial Beach Eagle and Times). The NOI

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				invited agencies, organizations, and the general public to provide written comments about the Proposed Action and issues to be addressed in the EIS. The notices also announced two public meetings (Marina Vista Community Center, Imperial Beach; and Coronado Public Library, Coronado). The Navy provided a 45-day scoping period. The Draft EIS was prepared and a Notice of Availability and Notices of Public Hearings (two public meetings) were published in the *Federal Register* and in the same local newspapers. The Navy provided a 60-day public review period. Additionally, the EIS was made available for general review at three public libraries (Imperial Beach Library, Coronado Public Library, and City of San Diego Central Library) in the local area, and on the project website (www.NBCCoastalCampusEIS.com).
17.35	64-6	Elwell, J.	This proposal is a stacked deck dealt with a slight of hand. The Joker Card is the $750 million "Campus" to duplicate an already existing Commando training base on endangered Coronado Heights.	As is described in Section 1.3, Purpose and Need, and Section 2.3, Development of Alternatives, the proposed Coastal Campus is needed due to a lack of adequate space. The existing facilities are undersized, outdated, and functionally obsolete. Consolidating NSW at the Coastal Campus would eliminate current overcrowding at NAB Coronado. NAB Coronado is built out and no redevelopment or other substantial renovations are proposed. The Navy is subject to responding to worldwide events and must be as flexible as possible to address any immediate threats at home and abroad. Planned facilities are subject to world trends and fluctuating Federal funding.
17.36	1-1	Glass, C.	The creation of the NBCCC, a very large new development project, will have many permanent impacts on the surrounding neighborhoods, particularly the Cays. As far as I can tell, none of those impacts will be positive. Further, none of the affected parties moved to the "nuisance" as it were, the "nuisance" is moving to them. This is a very important distinction and one the Navy should more fully appreciate.	The Navy has been a good neighbor for nearly 40 years and will continue to work with the adjacent Cities to minimize impacts of Navy operations on the local community. The Navy conducted an extensive environmental analysis process that determined the significant impacts, and provided an extensive list of impact avoidance and minimization measures, along with specific mitigation measures.
17.37	1-4	Glass, C.	Surely this a situation which deserves serious attention by the planners of NBCCC. So far, it would appear that nothing has been, or is anticipated being planned to mitigate in any meaningful way the potentially detrimental impacts to the Cays	The Navy has been a good neighbor for nearly 40 years and will continue to work with the adjacent Cities to minimize impacts of Navy operations on the local community. The Navy conducted an extensive environmental analysis process that determined the

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			residents. It should be incumbent upon the Navy to employ every effort to mitigate the considerable negative effects upon the residents of the Cays of the proposed Coastal Campus project, not just during construction but in the future as the project becomes operational.	significant impacts, and provided an extensive list of impact avoidance and minimization measures, along with specific mitigation measures.
17.38	1-6	Glass, C.	Design professionals and other decision-makers must visit the Cays in order to more fully understand the impact of the NBCCC on the physical environment of their immediate neighbors. The Navy could do much to address the concerns expressed by the City and embraced by the residents of the Cays, by scheduling working meetings with City and the CCHOA to discuss various designs and implementation plans for the buildings and their placement on the Coastal Campus lands.	The Navy has been a good neighbor for nearly 40 years and will continue to work with the adjacent Cities to minimize impacts of Navy operations on the local community. The Navy conducted an extensive environmental analysis process that determined the significant impacts, and provided an extensive list of impact avoidance and minimization measures, along with specific mitigation measures.
17.39	67	Freidl, P.	(Duplicate of comment 26-1)	The Navy will address a Transportation Demand Management Plan via the Traffic Advisory Committee. Elements of such a plan would include commuting, parking, and traffic mitigation options.
17.40	68	Giffen, J.	(Duplicate of comments 53-1 and 53-2)	See responses 53-1 and 53-2.
17.41	69	Phillips, C.	(Duplicate of comments 60-1 through 60-23)	See responses 60-1 through 60-23.
17.42	70	Downey, C.	(Duplicate of comments 62-1 through 62-12)	See responses 62-1 through 62-12.

APPENDIX A

PUBLIC INVOLVEMENT

A-1

NOTICE OF INTENT

Headquarters in Washington, DC, by phone at 202–761–0250.

SUPPLEMENTARY INFORMATION: Public meeting: August 7, 2012, from 7:00 p.m. to 8:00 p.m. at the Minneapolis Park and Recreation Board Headquarters, 2117 West River Road Minneapolis, MN.

The legal authority for the regulation governing the use, administration, and navigation of the Twin Cities locks is Section 4 of the River and Harbor Act of August 18, 1894 (28 Stat. 362), as amended, which is codified at 33 U.S.C. Section 1. This statute requires the Secretary of the Army to ''prescribe such regulations for the use, administration, and navigation of the navigable waters of the United States'' as the Secretary determines may be required by public necessity. Reference 33 CFR 207.300, Mississippi River below mouth of Ohio River, including South and Southwest Passes; use, administration, and navigation.

Brenda S. Bowen,

Army Federal Liaison Officer.

[FR Doc. 2012–15967 Filed 6–28–12; 8:45 am]

BILLING CODE 3720–58–P

DEPARTMENT OF DEFENSE

Department of the Navy

Notice of Intent To Prepare an Environmental Impact Statement for the Proposed Naval Base Coronado Coastal Campus and To Announce Public Scoping Meetings

AGENCY: Department of the Navy, DoD.

ACTION: Notice.

SUMMARY: Pursuant to Section 102(2)(c) of the National Environmental Policy Act (NEPA) of 1969, as implemented by the Council on Environmental Quality Regulations, the Department of the Navy (DoN) announces its intent to prepare an Environmental Impact Statement (EIS) to evaluate the potential environmental effects of developing an academic campus on Naval Base Coronado (NBC) to support the current and future operational readiness of personnel with the Naval Special Warfare Command (NSWC). The proposed campus would include a mix of instructional and administrative facilities that would provide for indoor classroom and tactical training instruction, and equipment use, maintenance, and storage. Specific proposed actions within the Coastal Campus proposal are: (1) Evaluation of current land use and available facilities; (2) augmentation by design and construction of new facilities to support logistics, equipment use and maintenance training, classroom and tactical skills instruction, storage, and administration; and, (3) design and build of related site improvements that may include upgraded utilities, fencing, roads, and parking. An EIS is considered the appropriate document for comprehensively analyzing the potential environmental impacts of implementing this proposed action.

Dates and Addresses: DoN is initiating a 30-day public scoping process to identify community interests and specific issues to be addressed in the EIS. This public scoping process starts with the publication of this Notice of Intent (NOI). Two public scoping meetings will be held to receive oral and/or written comments on issues to be addressed in the EIS:

1. Tuesday, July 17, 2012, 6:00 p.m. to 8:00 p.m., Marina Vista Community Center, 1075 Eighth Street, Imperial Beach, California, 91932.

2. Wednesday, July 18, 2012, 6:00 p.m. to 8:00 p.m., Winn Room, Coronado Public Library, 640 Orange Avenue, Coronado, California, 92118.

Additional information concerning meeting times and locations is available on the EIS Web site at *www.nbccoastalcampuseis.com.* Public scoping meeting dates, times, and locations are also being announced in the local news media, including a local Spanish language newspaper.

Public scoping meetings will include open house sessions, with information stations staffed by the DoN representatives. Comments, both written and oral, will be collected at each of the two public scoping meetings, and written comments may also be made electronically on the project Web site. Spanish translation will be available at the public meetings and the project Web site accommodates Spanish language users.

FOR FURTHER INFORMATION CONTACT: Naval Base Coronado Coastal Campus EIS Project Manager, Attn: Ms. Teresa Bresler, 2730 McKean Street, Bldg 291, San Diego, California 92136.

SUPPLEMENTARY INFORMATION: NSWC is the maritime component of United States Special Operations Command (USSOCOM). Based at NAB Coronado, California, NSWC's mission is to organize, train, man, equip, educate, sustain, maintain combat readiness, and deploy Naval Special Warfare (NSW) forces to carry out special operations missions worldwide. NSW forces operate independently or in conjunction with other special operations forces (SOF), joint forces, allied units, and coalition forces.

NSWC currently conducts administrative and extensive logistics support, equipment use and maintenance training and classroom and tactical skills instruction on the Silver Strand Training Complex-North (SSTC–N) and Silver Strand Training Complex South (SSTC–S), Naval Amphibious Base (NAB) Coronado, Naval Air Station North Island (NASNI), and Naval Outlying Landing Field Imperial Beach (NOLFIB), and Camp Michael Monsoor. Although all of the facilities currently used by NSWC are located on components of NBC, they are over-utilized as well as widely dispersed and not conveniently co-located.

To support Congressionally-mandated growth of NSWC and to meet its current and anticipated mission requirements, the DoN is proposing a Coastal Campus at NBC. The proposed Coastal Campus would support future operational readiness by augmenting available NSWC facilities and reducing fragmentation and space deficiencies, while providing an integrated campus that accommodates primacy and privacy, characteristics of learning required for the development of these skill sets.

The proposed Coastal Campus would augment the current facilities used by NSWC. Specific proposed actions within the Coastal Campus proposal are as follows.

(1) Evaluation of current land use and available facilities.

(2) Augmentation by design and construction of new facilities to support logistics, equipment use and maintenance training, classroom and tactical skills instruction, storage, and administration.

(3) Design and build of related site improvements that may including utilities, fencing, roads, and parking. Due to the functional linkages and the geographic proximity of the components, the proposed Coastal Campus could be sited at SSTC–S, SSTC–N including NAB Coronado, NASNI, or NOLFIB, or a combination of these locations, all within the footprint of NBC.

Purpose and Need for the Action: The Global War on Terror has resulted in Congressionally-mandated personnel growth and increased training and operational readiness requirements for NSWC. However, current NSWC operational support, classroom and tactical skills instruction and administrative facilities, primarily located at NAB Coronado, are inadequate to meet existing and future mission requirements. Moreover, expansion potential at this location is limited. To accommodate NSWC's projected growth requires additional logistics and operational support

buildings, classrooms, storage and administrative facilities.

Accordingly, the purpose of the Proposed Action is to provide adequate facilities to support growth of NSWC and to maintain the required levels of operational readiness of special warfare forces, as mandated by Title 10 of U.S.C. Section 167 and Section 5062. The need for the proposed action is the lack of sufficient facilities and space to support NSWC's administrative, logistics, and classroom and tactical instruction functions. The Proposed Action would meet this need by optimizing both facilities and use of space, including synchronistic site improvements, within the existing NBC footprint. This would allow NSWC to support fluctuating organizational structure and mandated mission requirements.

The specific arrangement of built assets, number of buildings and required space would be developed and refined during the NEPA process based on scoping, impacts analysis and results of resource surveys. The DoN proposes 25 projects on NBC over a period of approximately ten years. Each of these projects would be refined as they are studied and evaluated during the Coastal Campus EIS process. The Coastal Campus EIS, when completed, would provide an analytic baseline from which each successive NSWC project may be optimally designed in terms of land use, facilities and infrastructure, and impacts to resources found within the study area.

Alternatives to be Considered: The EIS proposes to address four alternatives, including the No Action Alternative. The alternatives have been designed to study land use patterns, existing infrastructure and resource impacts, as an analytical baseline for receipt of future NSWC Military Construction (MILCON) Program projects. The alternatives would include:

(1) Alternative 1 (SSTC–S Alternative) consists of:

○ Consolidation of the necessary NSWC facilities to one location on the northern half of SSTC–S.

○ Design and construction of logistical support buildings, equipment use and maintenance training facilities, classroom and tactical skills instruction buildings, storage and administrative facilities, utilities, fencing, roads, and parking.

○ Construction of a new entry controlled point providing immediate access to SSTC–S from State Route 75, utilizing sustainable design for all facilities as is practicable.

(2) Alternative 2 (SSTC–S Design II expanded footprint Alternative) would include all of the components of Alternative 1, but the design footprint would increase by expanding the footprint down to the southern fence line of the SSTC–S boundary.

(3) Alternative 3 (Multi-Installation Alternative) would site necessary NSWC facilities at more than one location to include NAB Coronado, NASNI, NOLFIB, and SSTC–S incorporating sustainable design into all facilities as is practicable.

(4) Alternative 4 (No Action Alternative) would maintain existing land uses and training facilities as currently utilized at NBC. No new improvements would occur. Current programmed levels of use (type, tempo, location), including requirements for planned force growth, would continue. As a result, NSWC would continue to have limited space for current and future training support, as well as an inability to cope with Congressionally-mandated expanding training needs. Without consolidation of classroom and support facilities, NSWC personnel would continue to transit between SSTC–N/NAB Coronado, SSTC–S, and NOLFIB. This would continue inefficiency and fragmentation of training and increased expenses, and the environmental consequences would persist (e.g., air emissions and energy consumption of vehicle miles traveled). By limiting facilities and land use support to accommodate NSWC growth and expansion, Alternative 4—No Action Alternative would not achieve the mission of NSWC; however, it will be studied as a baseline of current land and facilities use.

Environmental Issues and Resources to be Examined: Environmental issues that will be addressed in the EIS will include, but are not limited to: Air quality, biological resources (including threatened and endangered species), cultural resources (including historic properties and archaeological resources), geology and soils, hazardous materials and hazardous waste management, health and safety, noise, visual resources, coastal resources, land use, recreation, socioeconomics (including environmental justice and protection of children), transportation and circulation, water resources, and public access. Measures that would avoid or mitigate environmental effects will also be analyzed. Additionally, the DoN will undertake any consultations required by the Endangered Species Act, Coastal Zone Management Act, National Historic Preservation Act, Clean Water Act, and any other applicable law or regulation.

Submitting Comments: The DoN encourages interested persons to submit comments concerning the alternatives proposed for study and environmental impacts to be analyzed. Federal, State and local agencies, Tribal governments, and interested persons are encouraged to provide oral and/or written comments to the DoN to identify specific environmental issues or topics of environmental concern that the DoN should consider when developing the Draft EIS. The DoN will prepare the Draft EIS, incorporating issues identified by the commenting public. All comments received, whether written, oral, on-line, at the public scoping meetings or provided to the DoN during the public scoping period, will receive consideration during Draft EIS preparation.

Written comments on the scope of the EIS should be postmarked no later than July 30, 2012. Comments may be mailed to the EIS Project Manager (Attn: Ms. Teresa Bresler), 2730 McKean Street, Bldg. 291, San Diego, California, 92136. Comments may also be submitted via the EIS Web site at *www.nbccoastalcampuseis.com.*

Dated: June 19, 2012.

L.R. Almand,

Office of the Judge Advocate General, U.S. Navy, Alternate **Federal Register** *Liaison Officer.*

[FR Doc. 2012–15979 Filed 6–28–12; 8:45 am]

BILLING CODE 3810–FF–P

DEPARTMENT OF DEFENSE

Department of the Navy

[Docket ID: USN–2012–0010]

Privacy Act of 1974; System of Records

AGENCY: Department of the Navy, DoD.

ACTION: Notice to add a system of records.

SUMMARY: The Department of the Navy proposes to add a system of records in its inventory of record systems subject to the Privacy Act of 1974 (5 U.S.C. 552a), as amended. The blanket (k)(1) exemption applies to this systems of records to accurately describe the basis for exempting disclosure of classified information that is or may be contained in the records.

DATES: This proposed action will be effective on July 30, 2012 unless comments are received which result in a contrary determination.

ADDRESSES: You may submit comments, identified by docket number and title, by any of the following methods:

* *Federal Rulemaking Portal: http://www.regulations.gov.* Follow the instructions for submitting comments.

A-2

SCOPING SUMMARY

1.0 INTRODUCTION

The Navy is preparing an Environmental Impact Statement (EIS) to evaluate the potential environmental impacts of Naval Base Coronado (NBC) Coastal Campus. Public scoping is the first step in the EIS process. The primary purpose of scoping is to provide notice to interested and affected federal, state, and local agencies; Native American tribes; and other interested persons and organizations to comment on the range of actions, alternatives, and impacts to be considered in the EIS.

The scoping process is intended to provide an early and open public dialogue about the Proposed Action to accomplish the following:

- Determine the scope of the analysis
- Determine the significant issues to be analyzed in depth in the EIS Identify other environmental review and consultation requirements

The public scoping period for the NBC Coastal Campus EIS began on 29 June 2012 when the Notice of Intent (NOI) was published in the Federal Register. The scoping period was originally planned for 30 days but was ultimately extended an additional 15 days to conclude on 14 August 2012.

2.0 REGULATORY REQUIREMENTS

NEPA requires federal agencies to make diligent efforts to involve stakeholders in the development of environmental planning documents and stipulates public involvement during various stages of the environmental review process. As part of the NEPA compliance process, coordination and consultation with government regulatory agencies are initiated to obtain necessary permits and perform consultations on the Proposed Action. The purpose of this ongoing coordination is to ensure that all applicable laws, rules, regulations, and policies have been identified and that the Proposed Action has been duly assessed in light of these legal requirements.

The NOI and public scoping period is the first step in the NEPA process prior to the development of a Draft EIS. When the Draft EIS is released to the public, the Navy will release a Notice of Public Hearings and will hold a public review period prior to the development of the Final EIS.

2.1 CEQ Public Involvement Intent

The importance and value of public involvement are clearly recognized in the guidelines of the Council on Environmental Quality (CEQ), which was established by NEPA. In determining the extent of public participation, the Navy considers the following factors:

- Magnitude of the environmental considerations associated with the Proposed Action
- Extent of anticipated public interest
- Relevant questions of national security and classification

2.2 Lead Agency

The Navy is the lead agency for the preparation of the NBC Coastal Campus EIS. The action proponents are the Commander, Navy Region Southwest and Commanding Officer, Naval Base Coronado.

3.0 PUBLIC INVOLVEMENT OBJECTIVES AND STRATEGY

Early and effective outreach to interested agencies, individuals, groups, and the general public ensures open communication not only for public scoping, but throughout the EIS process. Public involvement for the NBC Coastal Campus EIS includes ongoing public education and involvement methods and public open houses during the public scoping period and the Draft EIS review period. Public involvement methods include multiple modes of communication.

The scoping process for the NBC Coastal Campus EIS included a comprehensive public involvement program that was intended to notify federal, state, and local governments; Native American tribes; special interest groups; and the general public about the NBC Coastal Campus EIS, and to offer multiple ways for those interested to express their thoughts about the Proposed Action alternatives.

The Navy used several methods to inform the public about the NBC Coastal Campus EIS and a variety of opportunities to provide comments, as described below:

3.1 Notification and Information Dissemination

Stakeholders and the general public were informed of the NBC Coastal Campus EIS and opportunities for involvement through the publication of the NOI in the Federal Register, letters and postcards, press releases, newspaper advertisements, information repositories, and the NBC Coastal Campus website.

3.1.1 Notice of Intent to Prepare an EIS

As required by NEPA, an NOI to prepare an EIS was published in the Federal Register on 29 June 2012. A copy of the NOI is contained in Appendix A-1. This notice set forth the Navy's intent to prepare an EIS to evaluate the potential effects of the proposed NBC Coastal Campus. The NOI announced the Proposed Action and alternatives and described the purpose and need for the Proposed Action. The NOI also provided the public scoping meeting times and locations, the contact information for questions and comments, the project website location, and the

closing day of the public comment period. The NOI was also filed with the State of California, Governor's Office of Planning and Research, State Clearinghouse, which circulated the NOI to relevant state agencies.

The 30-day public scoping period (described in more detailed in Section 3.0) for the proposed NBC Coastal Campus EIS officially began on 29 June 2012 with publication of the NOI. The public scoping period was extended 15 days on 31 July 2012 to end on 14 August 2012. The notice of extension was published in the Federal Register on 31 July.

3.1.2 Mailed Notices

The Navy mailed NOI notification letters to 148 representatives of potentially interested and affected elected officials, government agencies, Native American tribes, and special interest groups. An additional 104 government agencies, special interest groups, and resident associations were mailed a postcard inviting them to a public scoping meeting and to provide a comment via mail or the project website. The stakeholder mailing list consists of elected officials, government agencies, nongovernmental organizations, special interest groups, and individuals and groups who requested to be on the list. The stakeholder mailing list will continue to be updated throughout the NEPA process to ensure that interested parties continue to be informed about the NBC Coastal Campus EIS.

3.1.3 Press Release

The Navy Public Affairs Office issued a press release on 29 June 2012 to 80 local and regional media representatives announcing the dates, times, locations, and purpose of the scoping meetings. The press release was distributed to media representatives. A press release regarding the notice of extension for the comment period was distributed to the same list of media representatives on 31 July 2012.

3.1.4 Newspaper Advertisements

Advertisements announcing the scoping meetings were placed in four local and regional newspapers – San Diego Union-Tribune, Enlace (Spanish newspaper), Coronado Eagle and Journal, and the Imperial Beach Eagle and Times. Advertisements regarding the notice of extension were placed in the same newspapers.

3.1.5 Information Repositories

At the beginning of the scoping period, information repositories were established to provide access to the NOI, draft and final NEPA documents, public meeting announcements, fact sheets, and other public information materials developed as part of the EIS process. Information repositories were established at the following locations:

- San Diego Public Library - Central Library Downtown: San Diego, California
- San Diego County Library - Imperial Beach Branch: Imperial Beach, California
- Coronado Public Library: Coronado, California

3.1.6 Website

A website for the Proposed Action (www.NBCCoastalCampusEIS.com) also provided information about the Proposed Action alternatives, announced the public scoping meetings, and offered the opportunity to submit a comment online. The website provided documents available for download, including a copy of the NOI, a fact sheet, and poster boards used at the scoping meetings. Due to the high percentage of Spanish-speaking residents in the communities most affected by the Proposed Action, the website was developed for viewing text in both Spanish and English, and several of the documents available for download had Spanish language versions. The website will continue to be maintained throughout the EIS process.

3.1.7 Notice of Scoping Period Extension

In response to requests from the Cites of Coronado and Imperial Beach, the scoping period was extended 15 days to 14 August 2012. The extension notice was published in the Federal Register on 31 July 2012, and advertised in the newspapers. An announcement of the extension was also placed on the website.

3.2 Public Open House Meetings

To allow the public the opportunity to review and comment on the Proposed Action and alternatives, two open-house scoping meetings were held in communities located near the areas anticipated to be most affected by the Proposed Action: Imperial Beach, California and Coronado, California. Navy staff and other members of the project team were available to explain the Proposed Action and the NEPA process and to answer questions. Written comments could be submitted in person on a comment card or verbal comments could be provided to a court reporter in attendance. Table 1 summarizes the public scoping meeting times and locations, and the number of attendees. Sixty-three community members attended the meetings.

Table 1. Schedule of Scoping Meetings and Attendance

Date	Location	Attendance
17 July 2012	Imperial Beach, California	30
18 July 2012	Coronado, California	33

3.3 Tribal Outreach

In addition to the letters sent to the Chairpersons of individual tribes in the San Diego region, the Kumeyaay Cultural Repatriation Committee (KCRC) was contacted on 2 July 2012 seeking further coordination with the Kumeyaay tribes for their comments and guidance on implementing a strategy to identify cultural resources on a potential location for the Proposed Action. A second attempt to contact the KCRC was made on 20 July 2012 and Navy staff were invited to a meeting on 2 August 2012 to discuss the project. Navy staff is currently coordinating with the KCRC pursuant to the Native American Graves Protection and Repatriation Act (NAGPRA).

4.0 SCOPING COMMENTS

Comments could be submitted via the website, written on a comment card at the public open houses, or provided verbally to a court reporter at the public open houses. Comment cards had instruction in both English and Spanish languages, and a bilingual outreach specialist was available for Spanish speakers who desired to submit a verbal comment. Comment cards could also be mailed.

In addition to the scoping meetings, the Navy provided various methods for the public to comment, including by mail and the comment function on the website. The Navy advertised these methods in the NOI, the scoping letter and postcard, the website, press releases to the local media, display advertisements in local newspapers, and on the scoping meeting comment cards and display boards.

4.1 Scoping Comment Submissions

During the scoping process, 42 comment cards, letters, verbal submissions, and website submissions were submitted. Table 2 summarizes the number of submissions by comment type.

Table 2. Submissions Received by Comment Mechanism

	Comment Cards	Comment Letters	Verbal Submissions	Website Submissions	Total
Federal Agency	0	0	0	0	0
Tribal Entity	0	0	0	0	0
State Agencies	0	4	0	1	5
Local Agencies	0	3	0	2	5
Non-Governmental Organizations	0	1	0	2	3
Individuals	3	5	9	12	29
Total	**3**	**13**	**9**	**17**	**42**

4.2 Unique Comments Received

Some comments on the NBC Coastal Campus were made by more than one commenter. The comment cards, letters, verbal submissions, and website submissions contained a total of 135 unique comments. Several comments were submitted more than once and through different comment mechanisms (i.e., via the comment function on the website, comment card, and verbal statement to a court reporter). The 135 comments received include comments that may be beyond the scope of the EIS.

4.3 Breadth of Comments

The comments addressed the Proposed Action alternatives, suggested specific resources or issues to be analyzed as part of the EIS, and recommended potential mitigation measures. Table 3 summarizes the number of comments received by topic.

Table 3. Number of Comments Received by Topic

Resource Area	Number of Comments Received
Traffic and Circulation	20
Biological Resources	16
Land Use and Public Access	12
Noise (Including Training Noise)	9
Social and Economic Impacts	9
Air Quality and Climate Change	9
Public Notification, Review, and Meetings	9
Other Comments	8
Cultural Resources	7
Proposed Action and Alternatives	7
Visual Resources, Aesthetics, and Views	6
Utilities and Public Services	6
Public Health and Safety	5
Hazardous Materials and Waste	4
Operations-Related Comments	2
Water Quality	2
Cumulative Impacts	2
Geology and Soils	1
Mitigation Measures	1
Total	**135**

A-3

COMMENT LETTERS

#1

Ms. Teresa Bresler
NBC Coastal Campus EIS Project Manager
2730 McKean Street, Bldg 291
San Diego, California 92136

15 September, 2014

Dear Ms Bresler -

I am a resident of the Coronado Cays. My work history is in architecture with a Master's in Urban and Regional Planning. I am also a member of the Coronado Transportation Commission and I fully support the City's response to the EIS for the proposed NBCCC in its entirety.

The Cays is only one tenth of a mile north of the proposed entrance to NBCCC. The Cays Home Owner's Association(CCHOA) has worked successfully to create and maintain a very pleasant environment for its residents. As a consequence, the Cays has grown into a very attractive and inviting place to live. The City has provided athletic fields and tennis courts within the Cays which are used by people outside the Cays.

The creation of the NBCCC, a very large new development project, will have many permanent impacts on the surrounding neighborhoods, particularly the Cays. As far as I can tell, none of those impacts will be positive. Further, none of the affected parties moved to the "nuisance" as it were, the "nuisance" is moving to them. This is a very important distinction and one the Navy should more fully appreciate. 1-1

Some points already made are of special interest to Cays residents:

- Traffic and construction noise as well as the enhanced lighting will have a great and increasing impact particularly on the well-established neighborhoods of the Coronado Cays. These impacts will not only decrease the residents' ability to enjoy outdoor activities, but will affect the attractiveness of the Cays as a place to live and can be expected to devalue the homes in the Cays accordingly. The noise from increased helicopter traffic alone is of vital concern. The fleeting noise of several jets is one thing, the prolonged, alternating noise of helicopters is quite another. 1-2

- So far only minimal mention of any noise or light abatement provisions have been made in the current EIS and mostly to say that the disturbance would be minor and unavoidable. How can this be true? Living conditions in the Cays will be forever changed, detrimentally so, by the development plans for the Coastal Complex. 1-3

Surely this a situation which deserves serious attention by the planners of NBCCC. So far, it would appear that nothing has been, or is anticipated being planned to mitigate in any meaningful way the potentially detrimental impacts to the Cays residents. It should be incumbent upon the Navy to employ every effort to mitigate the considerable negative effects upon the residents of the Cays of the proposed Coastal Campus project, not just during construction but in the future as the project becomes operational. 1-4

-The Cays needs additional information about the range of possible plot and traffic plans plus the various proposed foot prints of the proposed buildings themselves. Also, what specific efforts have been, and are being, made to minimize the effect of a large, complex, and entirely new development on land immediately adjacent to their homes? 1-5

- Design professionals and other decision-makers must visit the Cays in order to more fully understand the impact of the NBCCC on the physical environment of their immediate neighbors. The Navy could do much to address the concerns expressed by the City and embraced by the residents of the Cays, by scheduling working meetings with City and the CCHOA to discuss various designs and implementation plans for the buildings and their placement on the Coastal Campus lands. 1-6

-It has been stated that the Navy intends to increase the SEALS presence in the Coronado area, not just that some operations are to be consolidated in Coastal Campus facility. No mention is made of demolishing buildings where those operations are currently being housed. The net increase in traffic, noise and light cannot help but be considerable. As mentioned above, so far the Navy does not appear to have made any meaningful plans to mitigate these impacts. 1-7

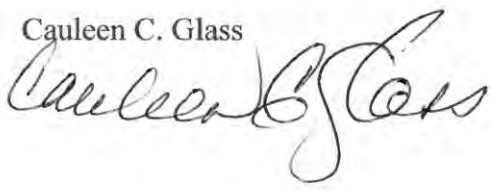
I am certain that those in charge of this project can do better in terms of establishing the necessity for a dialog with Coronado and specifically with the Cays. Such dialog must become a priority. The specifics of the design were all but absent from the presentations in Imperial Beach and Coronado and the EIS, except to indicate that the lead architect is "environmentally conscious". As a consequence, the slate seems to be open to all sorts of design solutions, each with a different set of impacts on the living environment adjacent to the proposed project, some less invasive, some more. 1-8

For instance, I understand that there is already a paraloft about 5 miles up the coast in the current SEAL area, why is it necessary to build another, and if it is, why not next to or near the existing one, rather than along a designated scenic highway? What is currently being planned will degrade valuable views along that highway, and there seems to be little, if any, concern for this on the part of the Navy. The Navy can and must do better by the people of Coronado. 1-9

- It is understandable that during the initial phases of construction a ground level entrance is more convenient and easier to establish, however the possibility of a flyover further south near the small bluff should be given serious consideration. This project requires the utmost creativity in its design and execution. The residents of Coronado and Imperial Beach deserve the most creative solutions to providing what the Navy needs in terms of structures and traffic patterns which protect to the greatest extent possible the current living environment. 1-10

- The carrying capacity of the surrounding protected lands as well as traffic on the Silver Strand highway which should be a major concern does not seem to have been addressed except in a tangential way. I hope that going forward the planners and architects will use all their design skills to create the most attractive and non-invasive project possible. There are other examples out there and the Navy should not just take the easiest route available to satisfying their needs. 1-11

Cauleen C. Glass



Metropolitan Transit System

1255 Imperial Avenue, Suite 1000
San Diego, CA 92101-7490
(619) 231-1466 • FAX (619) 234-3407

#2

September 29, 2014

SRTP 820.5, AG 210.7 (PC 50451)

NBC Coastal Campus EIS Project Manager
Attn: Ms. Teresa Bresler
2730 McKean Street, Bldg. 291
San Diego, CA 92136

Dear Ms. Bresler:

SUBJECT: NAVAL BASE CORONADO COASTAL CAMPUS ENVIRONMENTAL IMPACT STATEMENT

Thank you for affording the San Diego Metropolitan Transit System (MTS) the opportunity to comment on the Naval Base Coronado (NBC) Coastal Campus Environmental Impact Statement. MTS requests that the following infrastructure be included with the project so that we may be able to provide as effective bus service as practicable to meet future commute needs of NBC uniformed personnel and civilian employees.

A bus stop pair (one stop in each direction) located at the controlled intersection on SR-75 at the new main entrance to the Silver Strand Training Complex South. Ideally these bus stops would be "pull-outs" located far side (immediately following the intersection in the direction of travel). Specifications for the bus stops can be found in the MTS Designing for Transit Manual, located on our website here: 2-1

http://www.sdmts.com/Planning/documents/DesigningForTransitManual.pdf

Locating the bus stops as pull-outs on SR-75 can be superseded by a different configuration if the Navy and MTS in consultation agree upon a preferred alternative location or configuration.

If you have questions about these requirements please contact me at (619) 557-4589 or oswaldo.meneses@sdmts.com.

Regards,

Oswaldo Meneses
Associate Transportation Planner

LMARQUIS-L
L-TBRESLER.NBCCOASTCAMP.OMENESES.092914

Cc: Jeff Codling

#3

Comment Card / Tarjeta para sus comentarios

Comments can be submitted at any public meeting or postmarked by September 22, 2014.
Sus comentarios pueden someterse en cualquier reunión pública o enviarse por correo, con sello postal previo al 22 de Septiembre del 2014.

Traffic on Palm Ave EAST/WEST AM/PM is already congested and overused with Navy traffic
*caused our school children to be 45m late last week
Increasing traffic flow will impact students walking to and from school increasing danger. 3-1
-as well as students/parents at BUS STOP
Concern as well - MITIGATION of TIMING IS NOT going to solve the problem. 3-2

Allow a "right turn" only into new gate to keep personnel to use I Bridge and enter Southbound Hwy 75 ONLY 3-3

Keep traffic off Palm Ave for Safety of Students walking and on school buses. 3-4

Optional / Opcional

Name / Nombre Joannette Ford SO. BAY UNION School Dist.
Address / Dirección 2005 Leon Ave
City / Ciudad SD State / Estado CA Zip Code / Código Postal 92154
Telephone / Teléfono 619-628-3586 Email / Correo Electronico Jford@sbusd.org

Comments may also be submitted online.
Los comentarios también pueden ser enviados en línea.

Comment Card / Tarjeta para sus comentarios

#4

Comments can be submitted at any public meeting or postmarked by September 22, 2014.
Sus comentarios pueden someterse en cualquier reunión pública o enviarse por correo, con sello postal previo al 22 de Septiembre del 2014.

I DON'T LIKE THE CURRENT MACHINE GUN SOUNDS, AND THE HOVERING HELICOPTERS. 4-1

ALL THESE PROJECTS ~~BE~~ BELONG AT CAMP PENDELTON. 4-2

THIS PROJECT NEEDS ACCESS TO BEACH. 4-3

Optional / Opcional

Name / Nombre ZEKE MAZUR
Address / Dirección 522 7TH ST
City / Ciudad I. B. State / Estado CA Zip Code / Código Postal 92932
Telephone / Teléfono (619) 423-4652 Email / Correo Electronico ZEKEMAZUR@YAHOO.COM

Comments may also be submitted online.
Los comentarios también pueden ser enviados en línea.

NAVAL BASE CORONADO COASTAL CAMPUS
Environmental Impact Statement

CAMPUS COSTERO DEL BASE NAVAL DE CORONADO
Declaración de Impacto Ambiental

Comment Card / Tarjeta para sus comentarios

#5

Comments can be submitted at any public meeting or postmarked by September 22, 2014.

Sus comentarios pueden someterse en cualquier reunión pública o enviarse por correo, con sello postal previo al 22 de Septiembre del 2014.

- PLEASE POST A BANNER AT THE PALM AVE. ENTRANCE TO THE CITY ADVERTISING THE PUBLIC COMMENT AND EDUCATION MEETINGS. (SIMILAR TO FARMER'S MARKET BANNER). 5-1

- WILL THE CONSTRUCTION CREWS EMPLOY IB CITIZENS? A PERCENTAGE? 5-2

- HOW IS HEIGHT AND DENSITY OF THE CONSTRUCTION DETERMINED? 5-3

- WILL THERE BE ANY MITIGATION ACCORDED TO IB (EVEN THOUGH PROPERTY IS IN CORONADO), TO HANDLE WATER, SEWAGE, AND TRAFFIC CONCERNS? 5-4

Optional / Opcional

Name / Nombre Ruth Cole

Address / Dirección 326 ELDER AVE.

City / Ciudad IB **State** / Estado ______ **Zip Code** / Código Postal 91932

Telephone / Teléfono ______ **Email** / Correo Electronico IBRUTH2@EARTHLINK.NET

Comments may also be submitted online.

Los comentarios también pueden ser enviados en línea.

www.NBCCoastalCampusEIS.com

NAVAL BASE CORONADO COASTAL CAMPUS
Environmental Impact Statement

CAMPUS COSTERO DEL BASE NAVAL DE CORONADO
Declaración de Impacto Ambiental

Comment Card / Tarjeta para sus comentarios

#6

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Although I have a distinct feeling that you will not act on too much of what I write BUT

(1) Please keep access to the beach open - a curfew would be acceptable e.g. 10:00 PM to 5:00 AM. I have walked this beach for 40 years + and have many of my neighbors! (We are not 9-11 terrorists - just residents) 6-1

(2) PAY the city of I.B. for use of the sewer line emptying into the city's system on 7th St. 6-2

(3) Build as little as possible. Plan with the site in mind - an incredible irreplaceable resource & it needs real care & thought with endangered species in mind. 6-3

Optional / Opcional

Name / Nombre PATRICIA McCOY

Address / Dirección 137 Citrus Ave

City / Ciudad Imperial Beach State / Estado CA Zip Code / Código Postal 91932

Telephone / Teléfono ______ Email / Correo Electronico mccoy41ib@aol.com

Comments may also be submitted online.
Los comentarios también pueden ser enviados en línea.

www.NBCCoastalCampusEIS.com

NAVAL BASE CORONADO COASTAL CAMPUS
Environmental Impact Statement

CAMPUS COSTERO DEL BASE NAVAL DE CORONADO
Declaración de Impacto Ambiental

Comment Card / Tarjeta para sus comentarios

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Continuation of 2 of Mary Comments.

Buildings should fit into the environment with wetland plant colours. 6-4

(See TRNERR Visitor Center in I.B. by Rob Quigley architect)

Take plant samples & match colours to the natural land environment. 6-5

Be sure to take coastline path out of DRAFT EIS where it encroaches on vernal pools or nesting sites. (Check maps) 6-6

NON-Reflective glass on buildings - no shine or glitter. Lights should be shielded from creating light pollution. 6-7

NOC [illegible]

Optional / Opcional

Name / Nombre Mary McCoy

Address / Dirección 13 Y [illegible] Ave

City / Ciudad Imperial Beach State / Estado CA Zip Code / Código Postal 91932

Telephone / Teléfono 619 423-[illegible] Email / Correo Electronico McCoyH[illegible]@aol.com

Comments may also be submitted online.

Los comentarios también pueden ser enviados en línea.

www.NBCCoastalCampusEIS.com

Comment Card / Tarjeta para sus comentarios

#7

Comments can be submitted at any public meeting or postmarked by September 22, 2014.
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- Will there still be beach access? Right now citizens can walk on the beach. We would like to continue to be able to walk along the beach. 7-1

- The traffic study ~~does~~ does not seem like it is currently coordinated with some proposed plans from the city of IB. Why haven't they been taken into account and can the city and the navy coordinate. 7-2

- Currently traffic along Palm is ~~@~~ at capacity packed. What is the proposed plan for increased traffic along ~~Palm~~ Palm? 7-3

-thank

Optional / Opcional

Name / Nombre Carrie Jiampa

Address / Dirección 502 Bonito Ave

City / Ciudad IB State / Estado CA Zip Code / Código Postal 91932

Telephone / Teléfono 858-401-3473 Email / Correo Electronico carriekintz@gmail.com

Comments may also be submitted online.
Los comentarios también pueden ser enviados en línea.

Comment Card / Tarjeta para sus comentarios

#8

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There is no Federal Fire Dept. 1st Responder Engine Company to provide Paramedic FF's and ALS ambulance services to this Coastal Campus. Fire Departments have dropped the boundaries / jurisdiction so that the closet 1st Responder Engine Co and ALS Ambulance will be responding to incidents (medical AIDS, fires, T.A.'s ringing alarms etc.) which will impact the City of Imperial Beach. The fire department has only one engine company that currently responds to ± 2,500 incidents per year. There are times when San Diego City, Coronado, Chula Vista fire departments are having to respond to Imperial Beach because IB Engine 39 is already assigned to an incident. Imperial Beach would require the implementation of a Fast Response Squad with staff of two FF/PM's paramedics to mitigate the impacts of the additional military personnel who are traveling to the Coastal Campus. 8-1 8-2

Optional / Opcional

Name / Nombre Tom Clark, Public Safety Director / Fire Chief
Address / Dirección 865 Imperial Beach Blvd
City / Ciudad Imperial Beach State / Estado CA Zip Code / Código Postal 91932
Telephone / Teléfono (619) 423-8225 Email / Correo Electronico tclark@imperialbeachca.gov

Comments may also be submitted online.
Los comentarios también pueden ser enviados en línea.

NAVAL BASE CORONADO COASTAL CAMPUS
Environmental Impact Statement

CAMPUS COSTERO DEL BASE NAVAL DE CORONADO
Declaración de Impacto Ambiental

Comment Card / Tarjeta para sus comentarios

#9

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Captain Gaiani promised a place to walk our dogs if we stayed off the beach. That lasted about 3 months. We set aside a piece of Navy property near the south gate that was fenced in and had palm trees and fire Hydrants. Can you please open that fenced in area for dog walking again? It would help to keep our dogs off the beach. 9-1

We need a way to extend the "Otay to Ocean" Bike/walking path. Recommend a walking/biking path for the public to access along the south end of the Navy property. 9-2

We are concerned about the amount of traffic coming to our city. Please keep traffic off of residential neighborhoods. 9-3

Please look at another location for entering the Navy property. 9-4

Optional / Opcional

Name / Nombre _____

Address / Dirección _____

City / Ciudad _____ **State** / Estado _____ **Zip Code** / Código Postal _____

Telephone / Teléfono _____ **Email** / Correo Electronico _____

Comments may also be submitted online.
Los comentarios también pueden ser enviados en línea.

NAVAL BASE CORONADO COASTAL CAMPUS
Environmental Impact Statement
CAMPUS COSTERO DEL BASE NAVAL DE CORONADO
Declaración de Impacto Ambiental

Comment Card / Tarjeta para sus comentarios

#10

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Incorporate a dual-purpose for the parachute drying tower. The size warrants for more of a usable space. 10-1

The plants/foliage should stay consistent with the existing landscape. 10-2

Optional / Opcional

Name / Nombre Citizen

Address / Dirección

City / Ciudad **State** / Estado **Zip Code** / Código Postal

Telephone / Teléfono **Email** / Correo Electronico

Comments may also be submitted online.
Los comentarios también pueden ser enviados en línea.

Comment Card / Tarjeta para sus comentarios

#11

Comments can be submitted at any public meeting or postmarked by September 22, 2014.
Sus comentarios pueden someterse en cualquier reunión pública o enviarse por correo, con sello postal previo al 22 de Septiembre del 2014.

Please Keep the Bunker

11-1

Optional / Opcional

Name / Nombre _____

Address / Dirección _____

City / Ciudad _____ **State** / Estado _____ **Zip Code** / Código Postal _____

Telephone / Teléfono _____ **Email** / Correo Electronico _____

Comments may also be submitted online.
Los comentarios también pueden ser enviados en línea.

NAVAL BASE CORONADO COASTAL CAMPUS
Environmental Impact Statement

CAMPUS COSTERO DEL BASE NAVAL DE CORONADO
Declaración de Impacto Ambiental

Comment Card / Tarjeta para sus comentarios

#12

Comments can be submitted at any public meeting or postmarked by September 22, 2014.
Sus comentarios pueden someterse en cualquier reunión pública o enviarse por correo, con sello postal previo al 22 de Septiembre del 2014.

I HAVE NO ISSUES WITH THIS PROJECT. IF THE NAVY NEEDS TO COMPLETE THEIR MISSION: BUILD IT! IF THEY DON'T, DON'T. 12-1

AND, PLEASE DON'T WASTE MONEY ON BIRDS, VORNAL POOLS, AND OLD GUN BATTERIES. 12-2

Optional / Opcional

Name / Nombre DAN ORR

Address / Dirección 320 2ND ST

City / Ciudad CORONADO State / Estado CA Zip Code / Código Postal 92118

Telephone / Teléfono 619-435-3496 Email / Correo Electronico DANIELPARKERORR@YAHOO.COM

Comments may also be submitted online.
Los comentarios también pueden ser enviados en línea.

NAVAL BASE CORONADO COASTAL CAMPUS
Environmental Impact Statement
CAMPUS COSTERO DEL BASE NAVAL DE CORONADO
Declaración de Impacto Ambiental

Comment Card / Tarjeta para sus comentarios

#13

Comments can be submitted at any public meeting or postmarked by September 22, 2014.
Sus comentarios pueden someterse en cualquier reunión pública o enviarse por correo, con sello postal previo al 22 de Septiembre del 2014.

Keep Bunker, the benefits don't outweigh the costs and hassel of removal. 13-1

So I heard they are plans to implinent a parachute drying funnel, that seems like a perfect excuse for an indoor skydiving tower. 13-2

Optional / Opcional

Name / Nombre _____

Address / Dirección _____

City / Ciudad _____ **State** / Estado _____ **Zip Code** / Código Postal _____

Telephone / Teléfono _____ **Email** / Correo Electronico _____

Comments may also be submitted online.
Los comentarios también pueden ser enviados en línea.

#14

DORIS BESIKOF

42 Spinnaker Way
Coronado, CA 92118

Tel. 619 575 8317
Email.

August 12, 2014

HAND DELIVERED

US Navy

Re: Meeting this date
Topic: Proposed 20 Story Building and Campus
Coronado, Silver Strand Beach and
Imperial Beach, California

To the Above Individuals:

The proposed project which is the subject of today's meeting should not go forward as presented. It is simply too much, too big and too unnecessary. It may serve the convenience of the Navy and it is presented at a time when our world is in conflict and our defense is important. Even so, it is simply too much to ask of the very citizens you are charged to protect and too destructive of irreplaceable resources. The Navy owns a huge share of the San Diego Bay and ocean waterfronts, including other locations already in use that could be expanded/adapted. 14-1 14-2

Every ninute of every day, one way or another, this project will burden the lives of those who live near it in the form of: congestion, pollution, noise and interference with the simplest daily activities of anyone within range. We are already affected. One small example: moments before writing this letter I lost email service when one of your planes flew over my home. This happens almost every afternoon and early evening, even though my home is not supposed to be in your flight path. 14-3

On a broader scale, the precious beach you wish to deface belongs to all the people of California and our American visitors. They will no longer be able to enjoy the unique natural ocean and wildlife habitat, which will either be totally destroyed or blotted from sight by this development. 14-4

Citizens who object to your proposal are in good company. The framers of our Constitution did not wish to create a large military establishment, in part because they feared the domestic effects, including tyranny, of a large military. From his first to his last day in office, President Dwight D. Eisenhower, who was intimately familiar with the need for a strong military, warned against imbalance and too much power of the military over our citizenry:

In the councils of government, we must guard against the acquisition of unwarranted influence, whether sought or unsought, by the military-industrial complex. . . . Only an alert and knowledgeable citizenry can compel the proper meshing of the huge industrial and military machinery of defense with our peaceful methods and goals, so that security and liberty may prosper together.

President Dwight D. Eisenhower, address upon leaving office, 1961

Public notice concerning this project has been disproportionately small compared to its impact. Why wasn't your report in full in the Coronado and Imperial Beach Eagle Journals, to give people an opportunity to understand what it means? Not many of our citizens know how to locate information that affects them in the Federal Register! 14-5

Tomorrow, August 15, at 4 p.m., is the annual meeting of the Coronado Cays Homeowners' Association at Loews Coronado Bay Resort. It is traditionally very well attended. I will bring your 20 story building and related plans to their attention. It is my hope, if you genuinely wish to notify this community of what you are doing, that you will have personnel engaged in this project present, to be introduced and to answer questions. 14-6

I've recently been told, "That's the cost of freedom," when I questioned matters related to local traffic safety and flyovers. The response is partly correct. But when the quality of life and the value of property that you claim to protect is destroyed by what you do, the Navy's price is too high and "freedom" is lessened by the very individuals charged to protect it.

Very truly yours,

Doris Besikof

NAVAL BASE CORONADO COASTAL CAMPUS
Environmental Impact Statement
CAMPUS COSTERO DEL BASE NAVAL DE CORONADO
Declaración de Impacto Ambiental

Comment Card / Tarjeta para sus comentarios

#15

Comments can be submitted at any public meeting or postmarked by September 22, 2014.
Sus comentarios pueden someterse en cualquier reunión pública o enviarse por correo, con sello postal previo al 22 de Septiembre del 2014.

1. Would like the design to encourage the use of public transit, bike, and walking. ~~Perhaps~~ Ease of access from bus stop to campus; excellent sidewalks and bike paths; and less convenient parking can all help. 15-1

2. Make sure to preserve the view shed, compatible with the rest of the scenic highway. 15-2

Optional / Opcional

Name / Nombre Mike Woiwode
Address / Dirección 649 J Ave
City / Ciudad Coronado State / Estado CA Zip Code / Código Postal 92118
Telephone / Teléfono 619 818 1050 Email / Correo Electronico mwoiwode@coronado.ca.us

Comments may also be submitted online.
Los comentarios también pueden ser enviados en línea.

NAVAL BASE CORONADO COASTAL CAMPUS
Environmental Impact Statement
CAMPUS COSTERO DEL BASE NAVAL DE CORONADO
Declaración de Impacto Ambiental

Comment Card / Tarjeta para sus comentarios

#16

Comments can be submitted at any public meeting or postmarked by September 22, 2014.
Sus comentarios pueden someterse en cualquier reunión pública o enviarse por correo, con sello postal previo al 22 de Septiembre del 2014.

AS A NAVY JUNIOR CURRENTLY LIVING IN THE VILLAGE, I FULLY SUPPORT THE NEED TO UPGRADE NAVY SPECIAL FORCES TRAINING FACILITIES. 16-1

I SUPPORT ALTERNATIVES 1 & 2 DUE TO THEIR MINIMAL IMPACT TO OUR ENVIRONMENT. 16-2

Optional / Opcional

Name / Nombre Susan Anderson

Address / Dirección 1105 G Ave

City / Ciudad Coronado **State** / Estado CA **Zip Code** / Código Postal 92118

Telephone / Teléfono _____ **Email** / Correo Electronico _____

Comments may also be submitted online.
Los comentarios también pueden ser enviados en línea.

NAVAL BASE CORONADO COASTAL CAMPUS
Environmental Impact Statement
CAMPUS COSTERO DEL BASE NAVAL DE CORONADO
Declaración del Impacto Ambiental

Comment Card / Tarjeta para sus comentarios

#17

Comments can be submitted at any public meeting or postmarked by September 22, 2014.
Sus comentarios pueden someterse en cualquier reunión pública o enviarse por correo, con sello postal previo al 22 de Septiembre del 2014.

I support the navy plan. They have done a great job of mitigating issues. Our navy supports our community. 17-1

Optional / Opcional

Name / Nombre Jason Ashman

Address / Dirección 1317 10th St.

City / Ciudad _____ State / Estado _____ Zip Code / Código Postal 92118

Telephone / Teléfono 619.437.4450. Email / Correo Electronico _____

Comments may also be submitted online.
Los comentarios también pueden ser enviados en línea.

#18

2014 AUG 14

FROM: SHANNON AND WILLIAM DAVIS, 1185 EAST LANE, IMPERIAL BEACH, CA 91932

TO: C.E. SUND DEPT. OF THE NAVY COMMANDING OFFICER, c/o TERESA BESLER,
NAVAL FACILITIES ENGINEERING COMMAND SOUTHWEST
2730 MCKEAN STREET #291, SAN DIEGO, CA 92136

Re: DRAFT NAVAL BASE CORONADO COASTAL CAMPUS ENVIRONMENTAL IMPACT STATEMENT

DEAR SIRS,

WE ARE CONCERNED THAT THERE MAY BE IMPACTS TO ENDANGERED SPECIES AT THE SOUTH NAVAL RADIO RECEIVING FACILITY (WULLENWEBER ANTENNA ARRAY) LOCATION S.S.T.C. SHOULD THE PROPOSED COASTAL CAMPUS PROJECT BE APPROVED, IN PARTICULAR THE FEDERALLY LISTED ENDANGERED SAN DIEGO FAIRY SHRIMP, THE CALIFORNIA LEAST TERN, THE WESTERN SNOWY PLOVER AND LIGHT-FOOTED CLAPPER RAIL AND THE PACIFIC POCKET MOUSE. WE ALSO BELIEVE THERE IS CAUSE FOR CONCERN FOR FEDERALLY LISTED PLANT SPECIES, SALT MAR5H BIRDS BEAK, AND COASTAL DUNE MILK VETCH THAT MAY BE IMPACTED. THERE IS ANOTHER SENSATIVE SPECIE AS WELL, THE GRASSHOPPER SPARROW. THE OTHER CONCERNS ARE THE ONE HUNDER AND FIFTY FOUR BIRD SPECIES THAT MAY FORAGE, FLY OVER AND POSSIBLY NEST BECAUSE OF S.S.T.C.'S CO-LOCATION TO THE U.S. FISH AND WILDLIFE REFUGE IN THE AREA.

18-1

18-2

18-3

THE IMPORTANCE OF OUR CONCERN, IS THAT THE ENDANGERED SPECIES ARE IN THE MOST IMMEDIATE DANGER OF BECOMING EXTINCT THROUGHOUT A SIGNIFICANT PORTION OF THEIR HABITAT AREAS. OUR CONCERN IS THE ALARMING RATE OF SPECIES, APPROXIMATELY 1,000 ANIMALS AND PLANTS THAT BECOME EXTINCT WORLD WIDE EVERY YEAR.

IN THE CASE OF THE SAN DIEGO FAIRY SHRIMP, SPECIES K049 101, IT HAS BEEN DESIGNATED AN ENDANGERED SPECIES SINCE 1993 BY THE FEDERAL ENVIROMENTAL ACT OF 1973. THE MAJOR DECLINE OF SAN DIEGO FAIRY SHRIMP VERNAL POOLS STARTED IN THE 1940 TO 1950 TIME PERIOD BECAUSE OF WORLD WAR TWO . ADDITIONALLY, DECLINE OCCURRED BETWEEN 1979 AND 1986 BECAUSE OF URBAN DEVELOPMENT. BEFORE DEVELOMENT, THERE WAS APPROXIMATELY 28,500 ACRES OF VERNAL POOL HABITAT IN SAN DIEGO COUNTY. BY 1986 ONLY 7% OF THOSE ACRES REMAINED. ON FEBRUARY 3, 1997 IT WAS REPORTED THAT 70% OF THE REMAINING VERNAL POOLS IN SAN DIEGO COUNTY WERE ON MILITARY BASES. THIS IS AN IMPORTANT PERSPECTIVE TO KEEP IN MIND BECAUSE OF THE GOOD STEWARDSHIP ON THE MILITARY BASES. BUT TO PUT THE IMPORTANCE IN PERSPECTIVE BY 1995 95% OF THE VERNAL POOLS WERE DESTROYED IN SAN DIEGO COUNTY. IT WAS REPORTED IN 2001 THAT ONLY 2,400 VERNAL POOLS EXISTED IN SAN DIEGO COUNTY. BETWEEN 2002 AND 2003 ONLY 3% OF THE VERNAL POOLS REMAINED.

A DELICATE BALANCE EXISTS, AND THE FACT THAT 70% OF THE POOLS HAVE BEEN PROTECTED ON MILITARY BASES HAS BEEN A SIGNIFICANT CONTRIBUTION.

THE ORGANISMS LIVING IN THESE VERNAL POOLS ARE GENERALLY CONFINED THERE AND HAVE EVOLVED TO WITHSTAND EXTREME ALTERNATING WET AND DRY CONDITIONS. WE HAVE ADVOCATED INDIVIDUAL VERNAL POOL FENCING AT THIS SITE. PLEASE SEE ATTACHED OUR LETTER OF MARCH 5, 2010. NOW WITH THIS NEW PROPOSAL WE WOULD STILL LIKE THE VERNAL POOLS TO BE FENCED TO KEEP THE FUTURE 3,500 PERSONEL OUT OF THE BREEDING GROUNDS. 18-4

ADDITIONALLY, WE ARE CONCERNED THAT THERE ARE CUMMULATIVE IMPACTS FROM THE GRADING AND CONSTRUCTION OF THE PROPOSED DEVELOPMENT. A WATER PIPE WITH A 30 FOOT RIGHT-AWAY FOR THE CALIFORNIA AMERICAN WATER COMPANY IS ON THE EDGE OF THE LARGEST VERNAL POOL (FIGURE 2-2 ON PAGE 2-12 AND FIGURE 2-4 ON THE NEXT PAGE) WHICH IS UP AGAINST THE FENCE OF THE WULLENWEBER ANTENNA ARAY. 18-5

THE E.I.S. SHOWS THAT WATER LINE ON THE EAST SIDE OF THE ANTENNA ARRAY AND OUR CONCERN IS THE DISTANCE FROM THE NEW WATER LINE AND THE VERNAL POOL. THERE IS SUPOSE TO BE A FIFTY FOOT BUFFER AROUND ALL OF THE VERNAL POOLS. THE NEW WATER LINE TRENCH SHOULD BE AT LEAST FIFTY FEET FROM ALL VERNAL POOLS. 18-6

THE DEMOLITION OF THE ARRAY AND WHERE THAT DEBRIS LANDS,IS OF CONCERN. THE TALL FENCING SHOULD BE DOWNED INWARDLY AS THE RADIO-RECIEVING FACILITY IS DEMOSLISHED, BECAUSE IT IS SO TALL, OBVIOUSLY, THE FENCE SHOULD NOT BE DOWNED OUTWARDLY AND DROP INTO THE VERNAL POOL. 18-7

U.S. FISH AND WILD LIFE NEEDS TO WALK AND IDENTIFY ANY ENDANGERED PLANT OR ANIMAL SPECIES WHICH ARE CURRENTLY INSIDE THE PERIMETER OF THE ARRAY BEFORE DEMOLITION.

THE ARRAY SHOULD BE DISMANTELED PRIOR TO THE WATER LINE OR OTHER UTILITIES BEING PUT UNDERGROUND. IT IS JUST TOO CLOSE TO THE SANCTUARY. PERHAPS AFTERWARDS, THEN THE WATER LINE CAN BE MOVED WEST IN A STRAIGHT LINE, NOT WITH A HALF CIRCLE ON THE EAST SIDE. 18-8

IT MIGHT BE WISE DURING CONSTRUCTION THAT U.S. FISH AND WILDLIFE REPRESENTATIVES ARE ON SITE TO MAKE SURE, THERE IS NO DISRUPTION OF RUNOFF EROSION, OR AIR BORN POLUTION, DUST OR CHEMICALS, HARMING PROTECTED AREAS. THERE IS NO WAY TO COMPENSATE THE LOSS ON VERNAL POOLS. THERE ARE NO MORE VERNAL POOL LANDS OUT THERE WITH FAIRY SHRIMP, FOR PURCHASE, WITH WHICH TO MITIGATE. 18-9

ON THE BLUFF, WHERE THE CAMPUS BUILDING IS PROPOSED, GRAVITY WILL BE A BIG FACTOR ON DOWN HILL-FLOW. SEDIMENTATION, SILT, EROSION WILL BE OF CONCERN NOT ONLY TO VERNAL POOL AREAS, BUT ALSO ON THE NESTING HABITAT AREAS OF ENDANGERED BIRDS TO THE NORTH. CONSIDER NO DEMOLITION, CONSTRUCTION, GRADING, HEAVY TRAFFIC, OR ROAD BUILDING DURING THOSE PERIODS OF NESTING. 18-10

THE NAVY CAN PROVE TO SUCCESSFULLY COEXIST WITH NEARBY PROTECTED SPECIES WITH PRECAUTION AND CONTINUED GOOD STEWARDSHIP. THANK YOU FOR CONSIDERING OUR COMMENTS.

SINCERELY, WILLIAM AND SHANNON DAVIS

ichment

Mar. 5, 2010

Mr. Kent Randall, Dept. of Navy
Naval Facilities Engineering Command South West – Code OPME
2730 McKean St., Bldg. 291
San Diego, CA 92136-5198

Re: Silver Strand Training Complex Draft EIS

Training at the expense of endangered species is our concern. Endangered species are to be restored to a point that they are removed from the federal list.

We are opposed to the training activities, if you won't put protective fencing around each Endangered San Diego Fairy Shrimp's Vernal Pool habitat complex at the Navy Silver Strand Training Complex. Without fencing, foot traffic, military dogs, and vehicles may irrevocably destroy, by crushing impacts, the cysts, eggs of the San Diego Fairy Shrimp in dry season. While the EIS states it will try to avoid the vernal pools when they are wet, it clearly states that it expects there to be foot traffic in dry season.

The Navy is committed to complying with all applicable federal law, regulations and policies. Current management of vernal pools restricts all activities from the pools at all times. Environmental programs and policies have been developed to protect and improve air, water, and land, cultural resources, and national resources. The protection of natural and cultural resources has become an integral part of planning for training on S.S.T.C. However, the protected sanctuary of the vernal pools is about to change for the worse from foot traffic, other traffic, pyrotechnic chemicals, and hydrocarbon residue from overhead aircraft. Chemicals introduce poisons into the pools. Hydrocarbons cover the surface of the water and restrict oxygen from the air reaching the water in the pools. Over time, the cumulative effect leads to destroying the ecological habitat of the vernal pool.

The San Diego Fairy Shrimp (Branchinecta sandiegonensis), species code K049 101, has been designated an endangered species in 1993 by the federal Environmental Protection Act of 1973.

Why not designate 6 acres as a fairy shrimp pool complex preserve as the pools are separated on the order of meters? Currently, it looks like there are three complexes of pools at S.S.T.C.-S . In that the antenna array is no longer being used, which has a diameter of approximately 944 feet, that has an existing perimeter fence around this antenna array, which occupies an area of approximately 16 acres and could add 10 new available acres for training and set aside 6 new available acres for the fairy shrimp pool preserve. Figure 3.11-4 (Ephermeral Pools) shows the occupied pools have an area of 4.65 acres. Training could use the area between the pool complexes, but not through the pool complexes.

History has recorded the steady decline of the San Diego Fairy Shrimp vernal pools. These pools have existed for thousand of years. The major decline started in the 1940 to 1950 time period because of World War II. Additional decline occurred between 1979 and 1986 from urban development. Before development there was approximately 28,500 acres of vernal pool habitat in San Diego County.

By 1986, only 7% of those acres remained. On February 3, 1997 it was reported that 70% of the remaining vernal pools were on N.A.S. Miramar or Camp Pendleton. By 1995 95% of the vernal pools were destroyed. In 2001 it was reported that 2,400 vernal pools existed. Between 2002 and 2003 only 3% of the vernal pools remain. In 2002, under President George W. Bush, a federal judge invalidated the critical habitat for the San Diego Fairy Shrimp. In 2009 President Barack Obama went to the National Environmental Protection Agency and ordered that all the protections of the endangered species that had been dismantled during the Bush era be put back which reestablished the critical habitat for the San Diego Fairy Shrimp.

So, the pools are down to 3% remaining. Most (70%) are on government property. Some of the pools do not have the San Diego Ferry Shrimp which makes the pools that do have, become more significant in importance. Development was the main cause of the decline in the pools. Now the Navy wants to develop S.S.T.C. – S which will further the decline of the pools if not protected as a fenced pool complex preserve.

We are patriotic and want our service men and women to have the best training. They deserve nothing less. Détente, the easing of strained relations, also applies to nature. A constant vigil of good stewardship needs to be kept for the endangered species to get off of the federal list. Thank you for considering our comments on this important matter.

Respectfully, Shannon and William Davis

Mail to 1185 East Lane, Imperial Beach, CA 91932-3227

#19

San Diego County Archaeological Society, Inc.

Environmental Review Committee

16 August 2014

To: Ms. Teresa Bresler
NBC Coastal Campus EIS Project Manager
Navy Public Works Center
2730 McKean Street, Bldg. 291
San Diego, California 92136

Subject: Draft Environmental Impact Statement
Naval Base Coronado Coastal Campus

Dear Ms. Bresler:

I have reviewed the cultural resources aspects of the subject DEIS on behalf of this committee of the San Diego County Archaeological Society.

The comments, below, are based upon the information provided in the DEIS, plus additional cultural resources reports provided to SDCAS by the Navy, and a visit to the SSTC-South project area on 28 July 2014.

The list of alternate locations for the project is rather long but omits Marine Corps Air Station Miramar. Not to imply that Miramar would be a feasible location, but why was it not evalutated like the others? 19-1

Regarding archaeological resources potentially affected by the project, we have the following comments:

1. We understand that impacts to SDI-5454/12270 will be avoided and appreciate that action.
2. The determination that the other archaeological sites present are not NRHP-eligible is also noted and concurred with.
3. While a 1997 evaluation found the remaining elements of the Coronado heights historic landscape are not NRHP-eligible, they do still convey some feeling for that historic period. As such, we would suggest that the remaining portions of the original highway and the cypress trees be retained if possible in the ultimate design of the new facility. 19-2
4. The cultural resources mitigation measures in Section 5.8 of the DEIS need to acknowledge that all recovered archaeological collections, other than NAGPRA-eligible material, is to be curated at a facility meeting the standards of 36 CFR 79. As a federally-funded project, this applies to the collections regardless of whether the land on which they are covered is in military, non-military Federal, or non-Federal ownership. 19-3

P.O. Box 81106 San Diego, CA 92138-1106 (858) 538-0935

Regarding historical structures and features, the destruction of the NRHP-eligible Building 99 seems both undesirable and unnecessary given that Alternative 2 and Alternative 3 are available. The cost of demolition of Building 99 would be enormous given, as we were told on-site, that the roof alone is 17 feet of reinforced concrete. Clearly, too, a large amount of the resulting debris would be far more than could be reused on-site, so disposal costs, both for hauling and landfill fees, would be significant, as well as unnecessarily consuming landfill space. Further, it would take an extended period of time, potentially complicating construction of much of the project as work would frequently be interrupted by the blasting.. And all that expense would yield a total of only 4.6 acres.

SDCAS recognizes the need for this project to go forward, but strongly urges selection of either Alternative 2 or Alternative 3, to prevent unnecessary destruction of the nation's military heritage.

Sincerely,

James W. Royle, Jr., Chairperson
Environmental Review Committee

cc: SDCAS President
File

#20

SAN PASQUAL BAND OF DIEGUEÑO MISSION INDIANS OF CALIFORNIA

SAN PASQUAL RESERVATION

August 11, 2014

Teresa Bresler
Naval Facilities Engineering Command Southwest
2730 McKean Street, Building 291
San Diego, CA 92136

RE: 5090 Ser N00 / 423
Naval Base Coronado Coastal Campus Draft Environmental Impact Statement

Dear Teresa Bresler:

After review of your letter and information on the Draft Environmental Impact Statement (EIS), The San Pasqual Band of Mission Indians as always is concerned about disturbance of our ancestral lands. As you are aware, much of the Kumeyaay territory has been altered through projects similar to this one. We want special care if any artifacts or remains are found. The legal process that is in place gives us a level of confidence that care will be taken. 20-1

The Band understands and agrees that The Department of the Navy – Naval Base Coronado is in need of adequate facilities to support west coast growth of NSWC and to maintain the required levels of operational readiness of special warfare forces. 20-2

Respectfully yours,

David L. Toler
Tribal Councilman

P.O. BOX 365 • 27458 N. LAKE WOHLFORD RD., VALLEY CENTER, CA 92082
PHONE 760-749-3200 • FAX 760-749-3876 • WWW.SANPASQUALINDIANS.ORG

#21

San Diego & Midwestern Railway Partners LLC

Ed Kravitz. Manager
Telephone· 619.890.8894
e-mail: charter@rent-a-train.com

August 12, 2014

NBC Coastal Campus EIS Project Manager

ATTN: Ms Teresa Bresler

2730 McKean Street, Bldg 291

San Diego,CA 92136

Date: 8-11-2014

From: Ed Kravitz DBA San Diego & Midwestern Railway Partners LLC

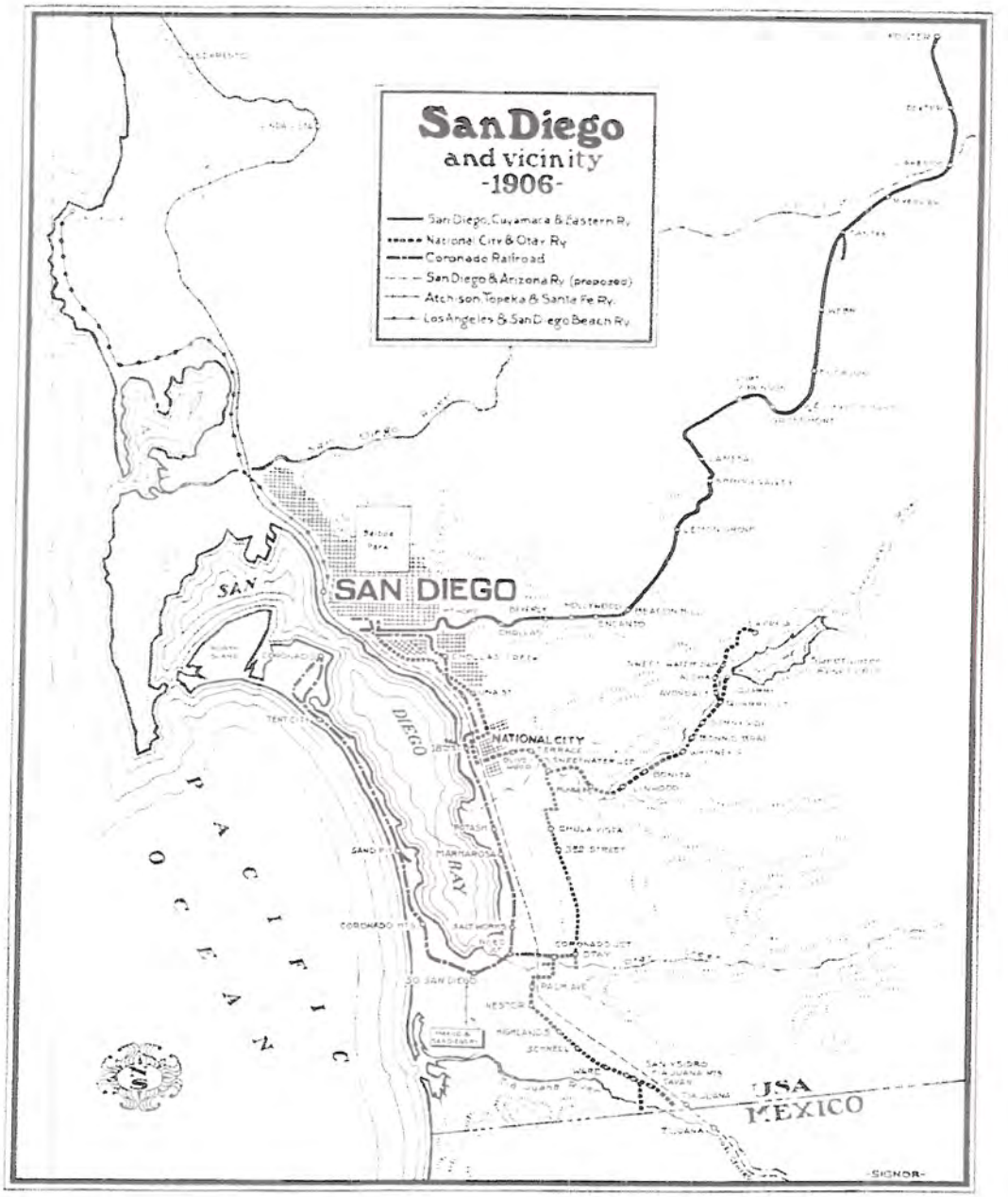
RE: Input on Coastal Campus Draft EIS Regarding Logistics, Traffic Mitigation and Defense Access with existing infrastructure and right-of-way.

My name is Ed Kravitz.

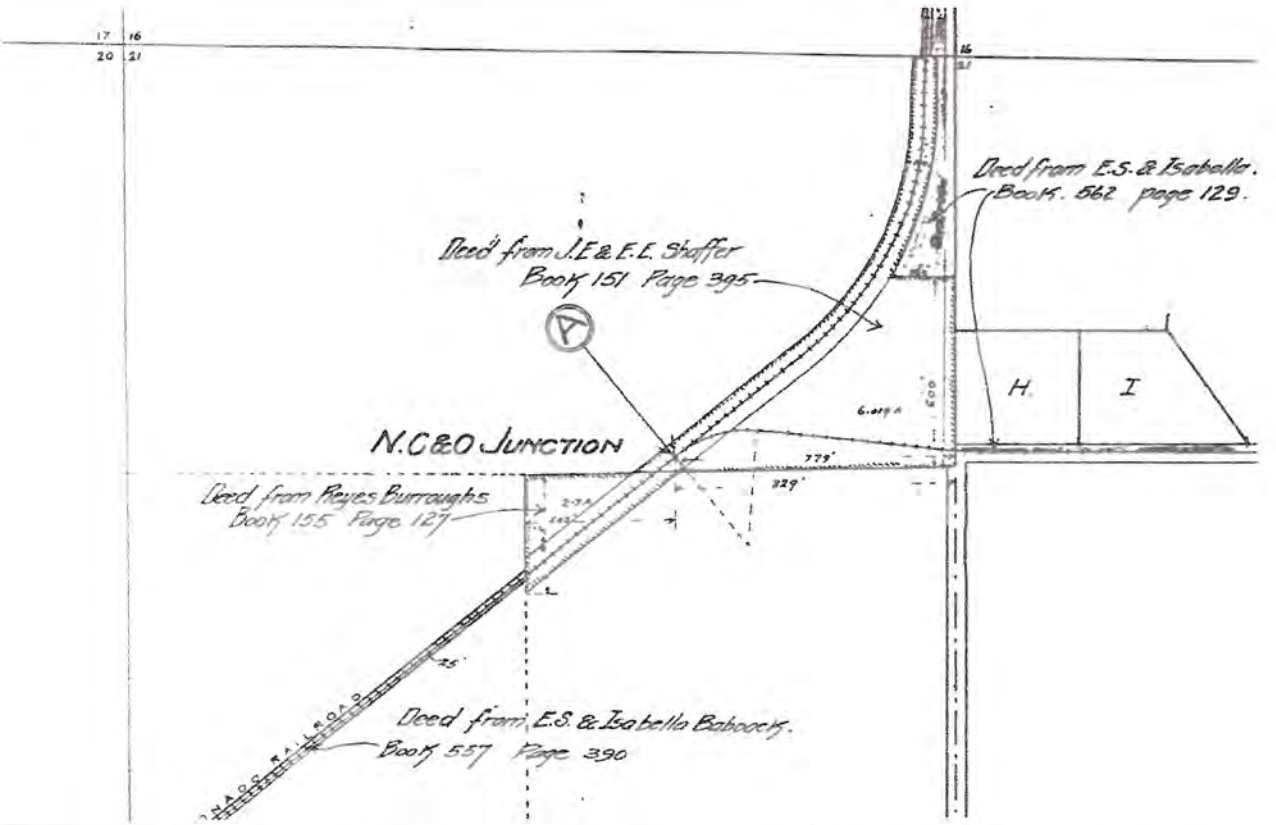
I have spent the last 15 years working in the railroad industry chartering private railcars and working with several tourist railroad operators. I have been an expediter and security consultant for moving high value loads on all of the major class 1 railroads in North America and still maintain contacts at most of them. I frequently bounty hunt missing passenger railcars through the use of my contacts in the industry. I also work with salvage and construction contractors in the rail industry as well as several well known rail consultants. I broker railcars and have access to an excellent passenger railcar shop in the Midwest.

As a long time resident of Imperial Beach and an advocate for preserving and improving rail infrastructure that survived the last century or so; I started a movement for historic registry of the Coronado Belt Line when it looked as though local political figures and the developers were planning it's demise, while ignoring the historic significance as well as the potential future need to restore the rail line.

Dr. Joe Schwieterman of the Transportation Studies Department at DePaul University has a two volume book set called; "When the Railroad Leaves Town". The second volume of western railroads has a chapter devoted to the Coronado Belt Line that is brief however, Schweiterman's book points out the demise of American Railroads and the the cost of recovering and restoring a right-of-way after it has been lost.


San Diego
and vicinity
-1906-
San Diego, Cuyamaca & Eastern Ry.
National City & Otay Ry.
Coronado Railroad
San Diego & Arizona Ry. (proposed)
Atchison Topeka & Santa Fe Ry.
Los Angeles & San Diego Beach Ry.
SAN DIEGO
NATIONAL CITY
CHULA VISTA
PACIFIC OCEAN
USA
MEXICO

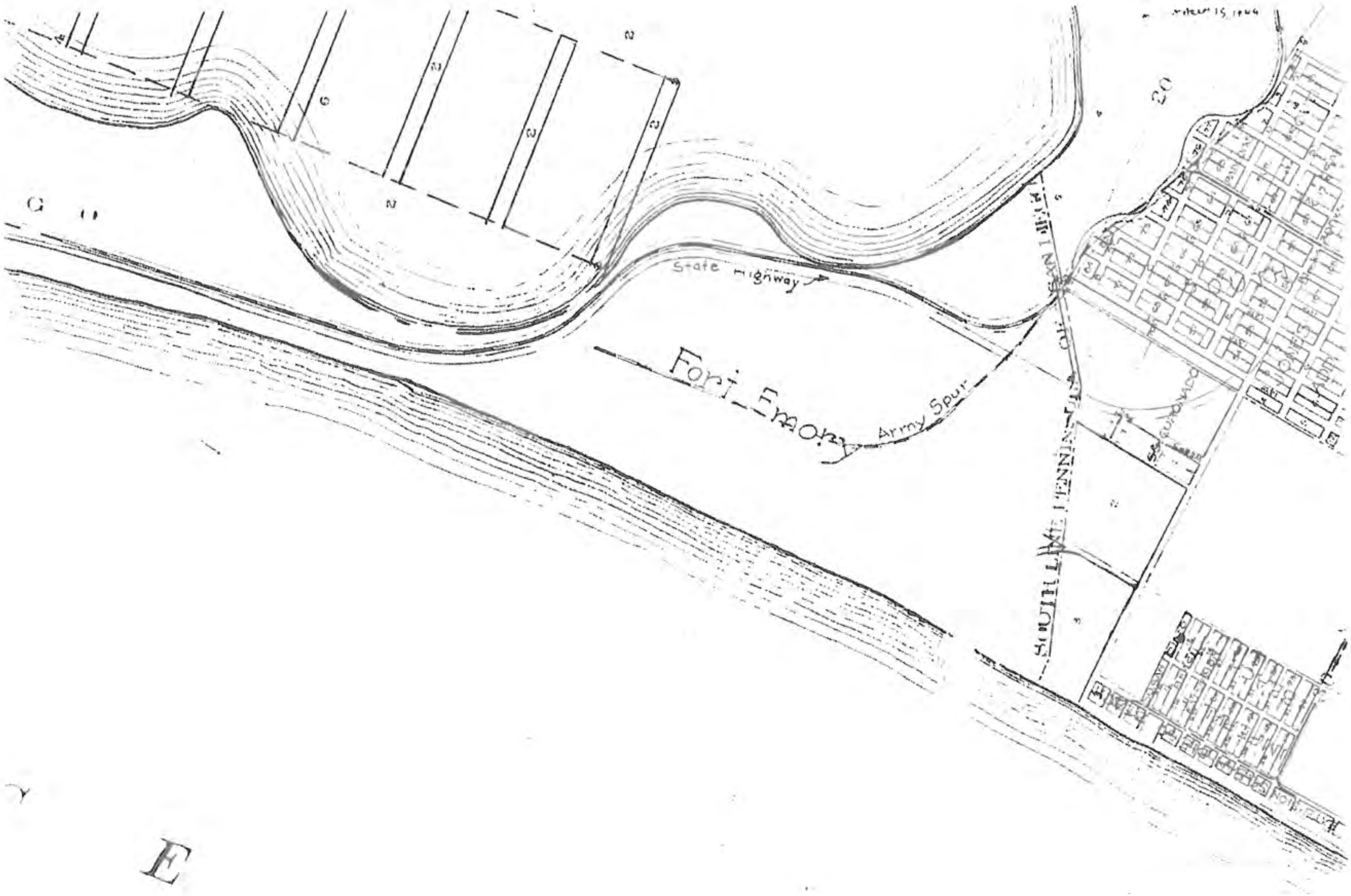

National City
Olivewood
SWEETWATER
Sweetwater Junc
Bonita
VALLE
LA NACION
Chulavista
CORONADO R R
NATIONAL CITY AND OTAY R R
Telegraph
B A Y
Coronado Heights
Fruitdale
La Punta
Otay
OTAY VALL
South San Diego



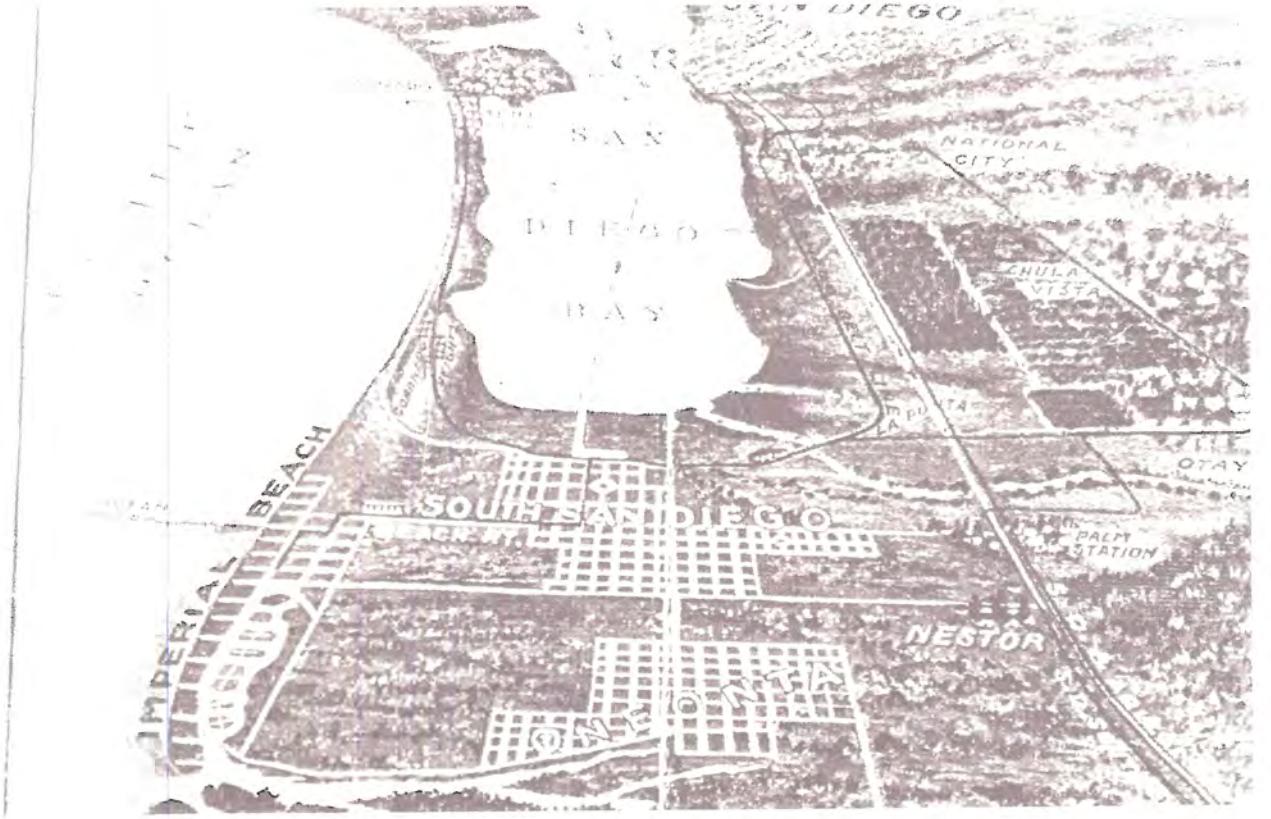
Without going into too many historic details, the rail line was originally built by San Diego historical figures Babcock and Story who also built the Hotel Del Coronado. They sold the rail line and the hotel to John D. Spreckels who later consolidated most of the rail lines in San Diego and built the desert line with secret help from Harriman from Southern Pacific.

Spreckles heirs sold to Southern Pacific and they tried abandonment in the 1980s after a hurricane. Eventually the railroad was purchased by the State of California and put under the Metropolitan Transit Development Board; now called MTS. The heart of the rail system is now used by the trolley during all but late night hours. Common Carrier Freight movement is a requirement of the light rail vehicle variance granted by the FRA. If the transit agency were to interfere with the movement of common carrier freight, they could loose their variance to run the San Diego Trolley's which don't meet Federal Rail Safety Specifications in use around full sized rail equipment.

The rail line once circumvented the bay from where it once merged with the trolley main line in National City through the south bay and back up Silver Strand. Multiple Naval Facilities are either next to the right-of-way or in close proximity. The Navy's development at North Island and Coronado required an operational rail line to move big packages. It was not until after the construction of the Coronado Bridge that the line was officially abandoned from 7th Street in Imperial Beach at the Bayfront all the way up Silver Strand.

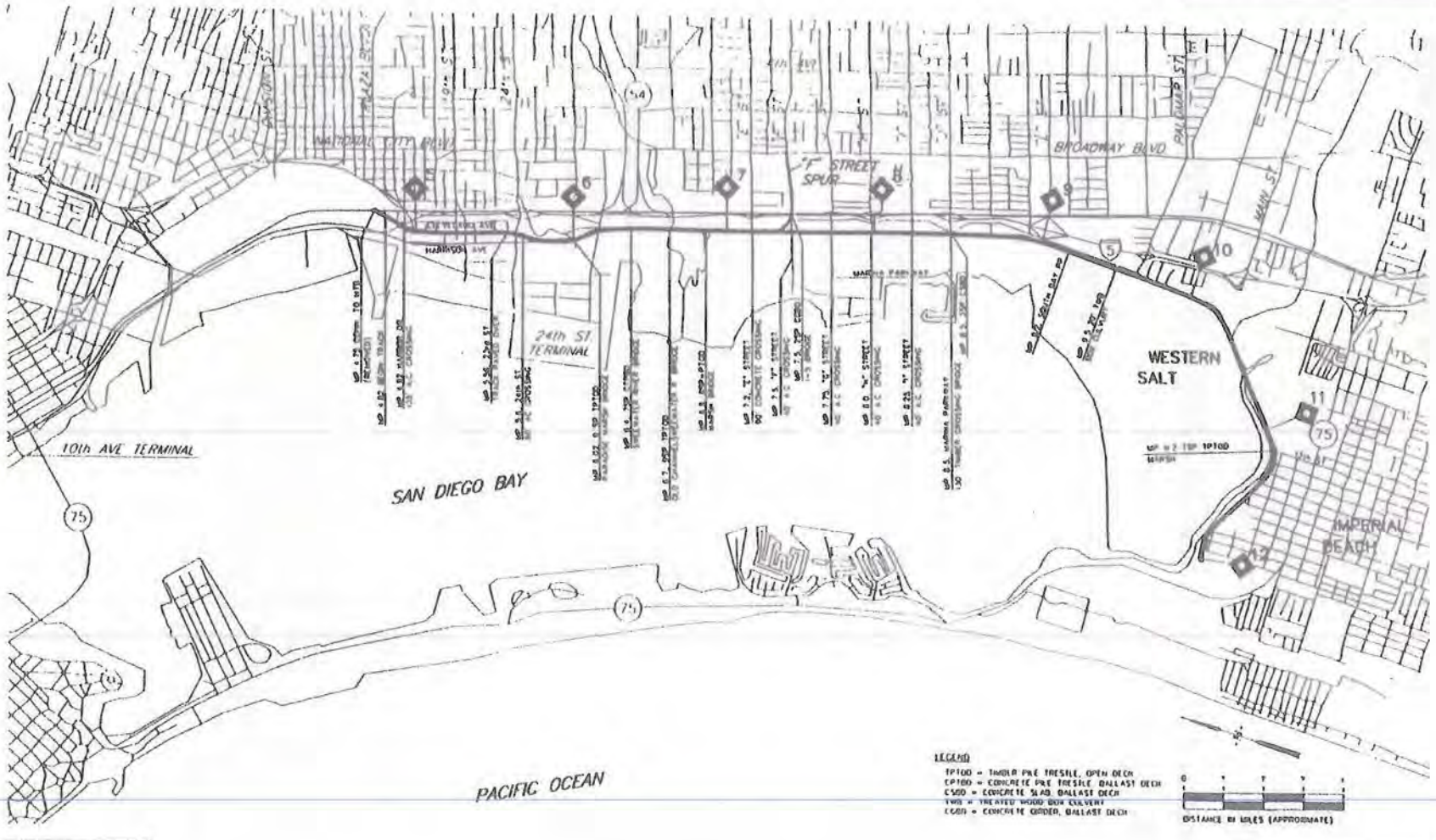


State Highway
Fort Emory
Army Spur
SOUTH LINE PENINSULA OF SAN DIEGO
CORONADO
20
E



From 7th Street in Imperial Beach back to National City is contiguous right-of-way in spite of several agencies attempts to sever the right-of-way over the last 15 years. Much of it still has usable rail but needs major tie replacement and several wooden trestles need new piles or concrete replacements. Several Grade Crossings have been disabled by Chula Vista and National City however there are M.O.U.'s on file with MTS/SDAE that would require those municipalities to repair those grade crossings and re-signal them if the rail line was needed for future use. I am on record at SDAE asking that they be required to put money in Escrow for restoration of grade crossings and signals in case their only objections later is the cost of doing so. Many of those signals were removed without the permission of the railroad in the late 1990's by the City of Chula Vista.

National City also paved over crossings without prior notice but later executed MOU's to restore them if needed at the City's cost. The Port of San Diego , Chula Vista and National City have been very confident that it would never be needed for future use; up until now. With an expanding military footprint for training and operations, rail infrastructure and mitigation of traffic become all the more important.


NATIONAL CITY BLVD
HARRISON AVE
24th ST TERMINAL
10th AVE TERMINAL
F STREET SPUR
BROADWAY BLVD
PALOMAR ST
MAIN ST
WESTERN SALT
SAN DIEGO BAY
PACIFIC OCEAN
IMPERIAL BEACH
LEGEND
DISTANCE IN MILES (APPROXIMATE)

Currently the Bayshore Bike Trail covers much of the right-of-way. Portions of the right-of-way from 7th Street back to National City are under license with MTS and there is a 30 day exit clause in the event the railroad is needed for emergency use. Much of the rail in Chula Vista and National City was heavier gauge than the original trackage at least as far south as the Salt Works/ Main Street. Most of those portions of the right-of-way are 50 feet wide and can easily accommodate a bike trail on either side of the rail. Many of the remnants from the power plant siding and trolley track replacement could provide major savings if a rail line were to be put back in service on short notice.

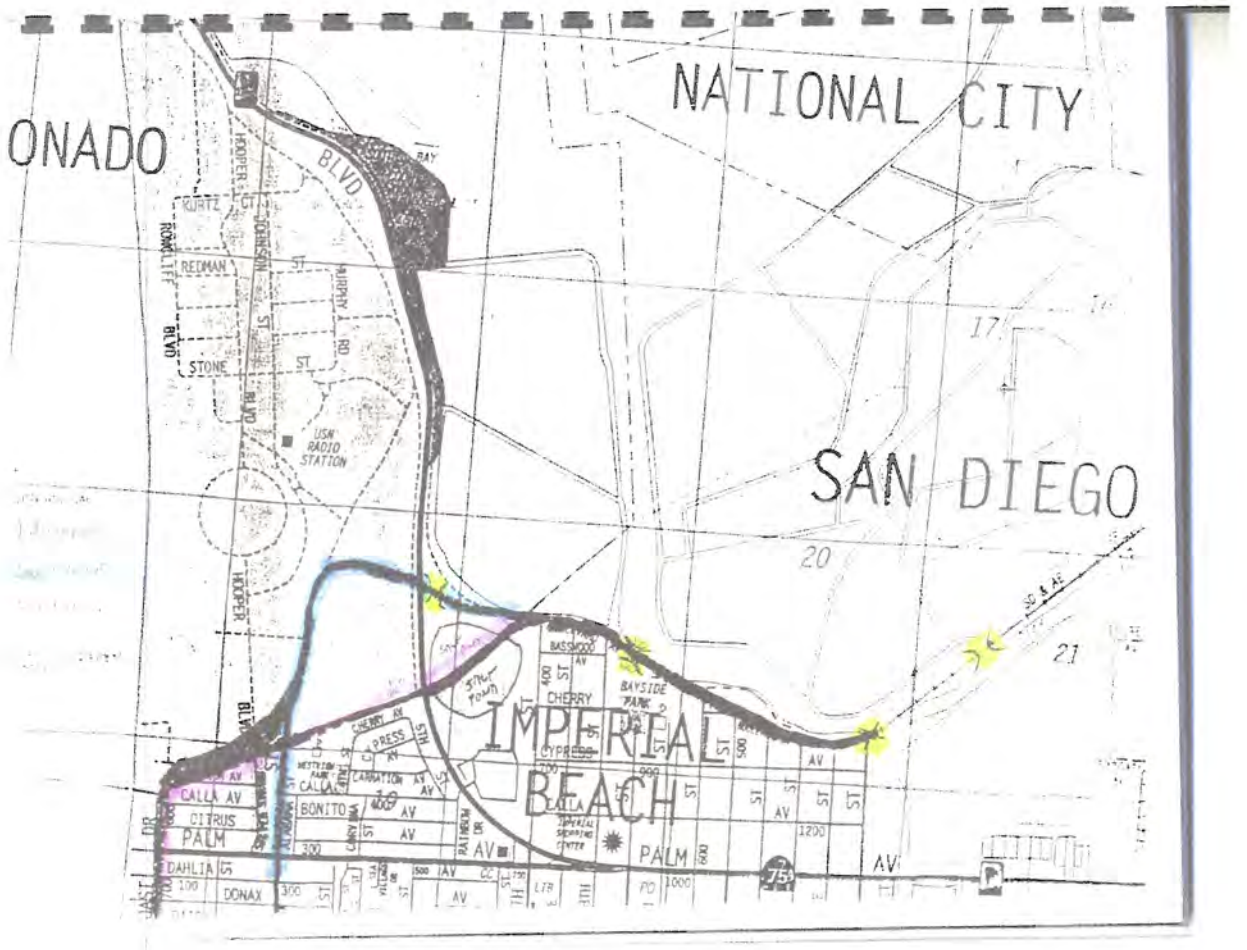
After a couple op-ed pieces in the local newspapers back in 1999, my new partners and I embarked on additional research to find out if the 1996 SANDAG Tourist Train Study had any Flaws. The first glaring flaw that we saw was that the rail line came from National City and turned around at the City Yard in Imperial Beach. There would be no benefit to Imperial Beach if the money gets on in National City and gets off in National City. Many facts were misrepresented in the 1996 SANDAG Tourist Railroad Study in all appearances to make it seem unfeasible to restore it as a railroad and it would be better purposed as a bike trail.

In our 1999 "Imperial Express Study" we were looking for a way to extend the rail line to within walking distance of the Beach in the vicinity of Carnation and Seacoast. If the beach were a destination bringing visitors on foot without cars, parking and traffic, it could save Imperial Beach's economy! These same routes that we researched happen to go right up to the South Gate at Ft. Emory! What a coincidence that my proposed light rail and tourist rail proposal from 1999 might provide major traffic mitigation for proposed base expansion. Anyplace along the Coronado Beltline right-of-way or connecting trolley system would instantly become a "Park & Ride" for Navy and support personnel to leave their cars and motorcycles at home or a satellite parking facility and take light rail instead. 21-1

After extensive meetings with the USFWS and other agencies we found out that many of the Navy's previous objections regarding EMF's from the 1996 SANDAG Study were not as critical with newer communications systems now in use. The transmitter facility at Ft. Emory is not as active as it may have once been and EMF's that might be produced by light rail vehicles or tourist trolleys or trains might not be as objectionable as in the original study which concluded that getting an easement to cross the Navy Base was just plain impossible.

Our number one choice of routes to the beach was to follow a common survey line that is visible on all of the maps that runs from approximately 7th and the Bayfront in Imperial Beach in a Southwesterly direction that lines up with Carnation Street and Seacoast Drive. Because half is in Coronado and Half in Imperial Beach it was the most logical route however, USFWS told us we would "NEVER" be able to cross the pond that sits just north of Bernardo Shores and alongside SR-75 as it curves to the north towards Coronado.

15 years later much of the water has been drained and denser development is planned at Bernardo Shores and the Bayfront. I believe it would be possible to run the railroad in this original proposed route to Ft. Emory and the Beach but would require mitigation to USFWS. What form of mitigation that might require would be up to the agencies involved to resolve. I just wanted to make the point that it could be done and if it were an issue of National Security ; not just railroads or municipalities can invoke eminent domain.



The second route was a compromise based on a quote from USFWS. He said; "As long as you stay in the existing right-of-way and it's normal maintenance and renewal, it's out of our jurisdiction." The railroad is grandfathered; at least where it's footprint remains. Also there are many laws on the books for the purpose of recovering abandoned rights-of-way. It's also very helpful if you happen to be the United States Navy and you own the right-of-way! From my research the rest of the right-of-way up Silver Strand is on Navy Property. Getting an easement should be quite simple if the Navy wanted to connect the Amphibious Base some 35,000 feet south to Ft. Emory. In fact I have a contractor that has given me a quote to build the approximate 7 miles of track from the Amphibious Base to Ft. Emory. In fact; he has bid it with used or "relay" materials as well as new higher spec rail and ties.

So my dream was once to run the best all year/ all weather tourist railroad or light rail line to the beach from downtown San Diego and save Imperial Beach's economy and parking and traffic woes. Little did I realize how strong the political opposition would be? Little did I know it was a E-ticket to go for an adventure in the tourist and freight railroad industries. I got to go places most railfans only dream about.

Without moralizing too much it does seem that many of the powerful and influential in San Diego are more interested in real estate development and tourism than National Defense. To many of these pro-development political types, San Diego Bay is nothing more than a reflecting pond for their pretty sparkling hotels and convention centers. The fact that San Diego is a deep water Pacific Rim Port in a World Economy escapes them. Perhaps the reality of it also becoming the biggest United States Naval facility on the west coast should give someone a clue what that bay is really for and the logistics of supporting 7 Bases in the region. With the Coronado Bridge nearing the end of it's life span and limitations on what types of materials can be moved over it, the future of the Coronado Belt Line and SR-75 should be of special importance to the Navy.

I recently watched a hearing on C-SPAN where testimony was given about the lack of rail infrastructure available to the Navy in San Diego. Can the Chinese park an intermodal train next to an aircraft carrier?

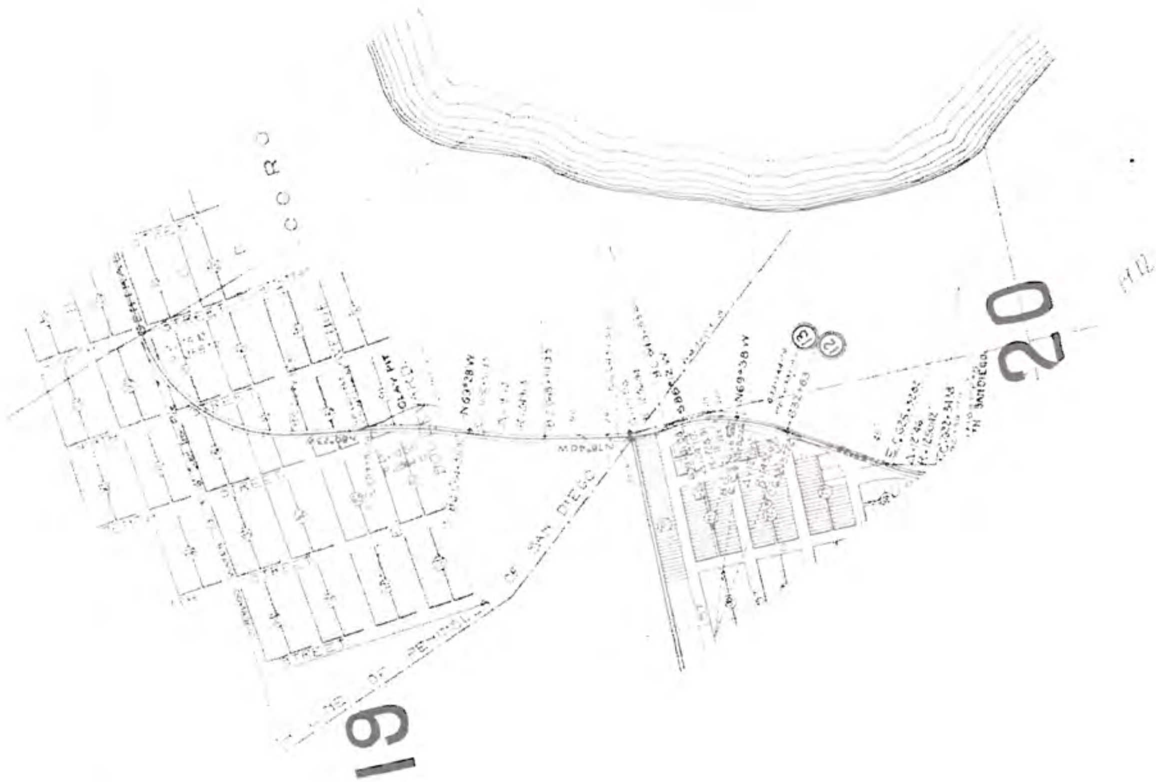
There are obviously more ways to accomplish this than just one. As I mentioned having bids for two different types of construction of light rail connecting Ft. Emory to the Amphibious Main Base in Coronado. The Midwestern contractor would love nothing more than to bring

his crews out to San Diego after Halloween and be able to work here restoring the line until spring than trudging through the snow and ice of winter back east.

Another method that might be suitable connecting bases by rail would be to elevate the track. Considering the potential for Tsunami or rogue wave wiping out infrastructure on the Silver Strand, elevated track on either concrete piers and pre-formed bridge sections or even a levee along the west side of SR-75 would provide separation and additional privacy for training exercises on the beach from highway views. While we found out that USFWS has objections to an overhead catenary like the San Diego Trolley uses because of it being a "Predator Perch", there are several ways to overcome that. RDC's also called Rail Diesel Cars could be used. These self-propelled coaches can be hooked in tandem and even pull non-powered coaches for additional capacity. There are many currently on the market and priced quite reasonable. Some shop work may be required but, we have a qualified railshop that has refurbished these same type units for CN and CSX.

The merger with the Trolley Line in National City could be accomplished multiple ways. If self propelled RDC's with compatible couplers and safety/control systems that would work with

the Siemens Trolleys could be acquired;the Siemens Trolleys could be acquired;



19
20
SAN DIEGO
CLAY PIT

The Beltline Trolleys could go all the way downtown to the Mills Building Transit Center and transfer with other trolleys. If not; a transfer station where you step off the MTS trolley in National City and board the Beltline RDC south to Chula Vista, 13th Street for OLF, Ft. Emory/Camp Surf and the Amphibious Base. Perhaps what is called a wye track could be useful at Ft. Emory for turn- around's .

When we first proposed our extension of the rail line to the beach in 1999 they were just starting to build out Eastlake. Now all those people call Imperial Beach their beach. New denser developments are going up at Marion Catholic High and Bernardo Shores. A new Walmart and proposed lane narrowing by the Community Development Department of

Imperial Beach in conjunction with SANDAG is not smart, but a danger to public safety. Proposed lane narrowing, traffic calming, new intersections and bike lanes will slow rather than speed up traffic on SR-75/Palm. These are new proposed obstacles that will be placed in a Tsunami Evacuation Route that was demanded by the 2005-2006 Grand Jury. These are also Defense Access Roads that are required to move certain hazardous materials. How can the City Of Imperial Beach or SANDAG even consider constricting lane size or traffic speed with all the new traffic? While additional cars and motorcycles on SR-75, Old Palm Avenue (which was also narrowed from 4 lanes to 2 lanes with a SANDAG Grant recently) will have impacts on both Navy and Civilians alike, SANDAG and the City have not quite figured it out yet. The congestion I tried to warn them about in 1999 is here now and going to get heavier. The Palm Avenue and I-5 Corridors are already at grid lock several hours of the day. What is unique about the rail proposal is that the right-of-way does not go in the Palm Avenue Corridor or I-5 corridor at all and it's speeds will not be affected by existing or future grid lock. In fact, the route from 7th Street in Imperial Beach going East and curving to the north bi-sects a triangle formed by Palm and I-5. It's actually a much shorter distance by the railroad right-of-way and will reduce travel times and long waits for traffic lights on SR-75. Because there are very few places where roads cross the right-of-way , the need to sound horns and install grade signals would be greatly reduced.

In one scenario we had proposed an overpass at SR-75 and the common survey line mentioned previously. This would provide an easement for both the rail and a bike trail under the traffic lanes of SR-75 and allow trains or light rail to cross under the highway with no required horn or whistle blast. A silent entry into northern Imperial Beach right to the gate at Ft. Emory. When asked about the cost, I recall reading in State Railroad Law that a railroad may cross a State Highway at whatever grade is most expedient for the railroad and it is up to CALTRANS to provide crossing signals, bridges, overpasses or whatever is required to make that crossing safe for motorists.

I believe that my rail proposals should be noticed by the Navy because of various Navy Programs already in existence that might provide funding immediately for such a project. 21-2

Readiness Environment Protection Integration (REPI)

Defense Access Roads (DAR)

Transportation Incentive Program (TIP) This project could take hundreds if not thousands of autos and motorcycles off both the I-5 and SR-75.

Training Purposes for Special Warfare Involving Rail

Additional Intermodal Shipping Capacity & Logistical Alternatives

I would like to let you know that the resurrection of this rail line is very dear to my heart and I have spent countless hours and personal resources researching and crusading to save this important piece of San Diego history. Because of my advocacy I found myself involved in the tourist railroad industry where I am still involved to this day. I am also on good terms with the licensed rail freight operators. I would be willing to offer consulting services or brokerage in finding appropriate equipment if the Navy should decide they want a fast start-up. As I mentioned, materials are available and my contractor would love to work in San Diego this winter rebuilding the Beltline. The Sea Bees could probably build it by tomorrow morning if tasked to do it.

I would like to address a component of this proposed rail scenario ; a group that feels threatened by the mere mention of the word *"railroad"*. A powerful lobby of bike enthusiasts feel that the rail line would end their use of the right-of-way. Nothing could be further from the truth and for all practical purposes the right-of-way could accommodate a bike trail on both sides of the rail. The few places where it appears constricted, it's not what it appears at face value and I'll be happy to explain again how and why both can exist together and compliment each other. I have lots of additional information ;both technical and historical and would like to be involved in the formation or operational license for the railway once known as the Coronado Beltline; in whatever configuration it may end up being someday in the future.

The first rule of Design is to maximize use of all the available resources. This is very salvageable infrastructure at this moment in history. Perhaps recently public officials overlooked it's future value for more immediate gains.

Will the communities around the bay support the restoration or improvements to the line? Certainly Imperial Beach could be a big winner. Why not make it a win-win for everyone including the Navy. Restoration of the rail line and light rail transit would make the Navy traffic almost invisible compared to now. The birds in the refuge don't care about trains or large objects. I have the studies to prove that. Only one little easement is keeping the train from pulling up to the front gate of Ft. Emory.

21-3

Thank you for reading my comments. If you should have any further questions or want more information , please feel free to contact me.

Ed Kravitz

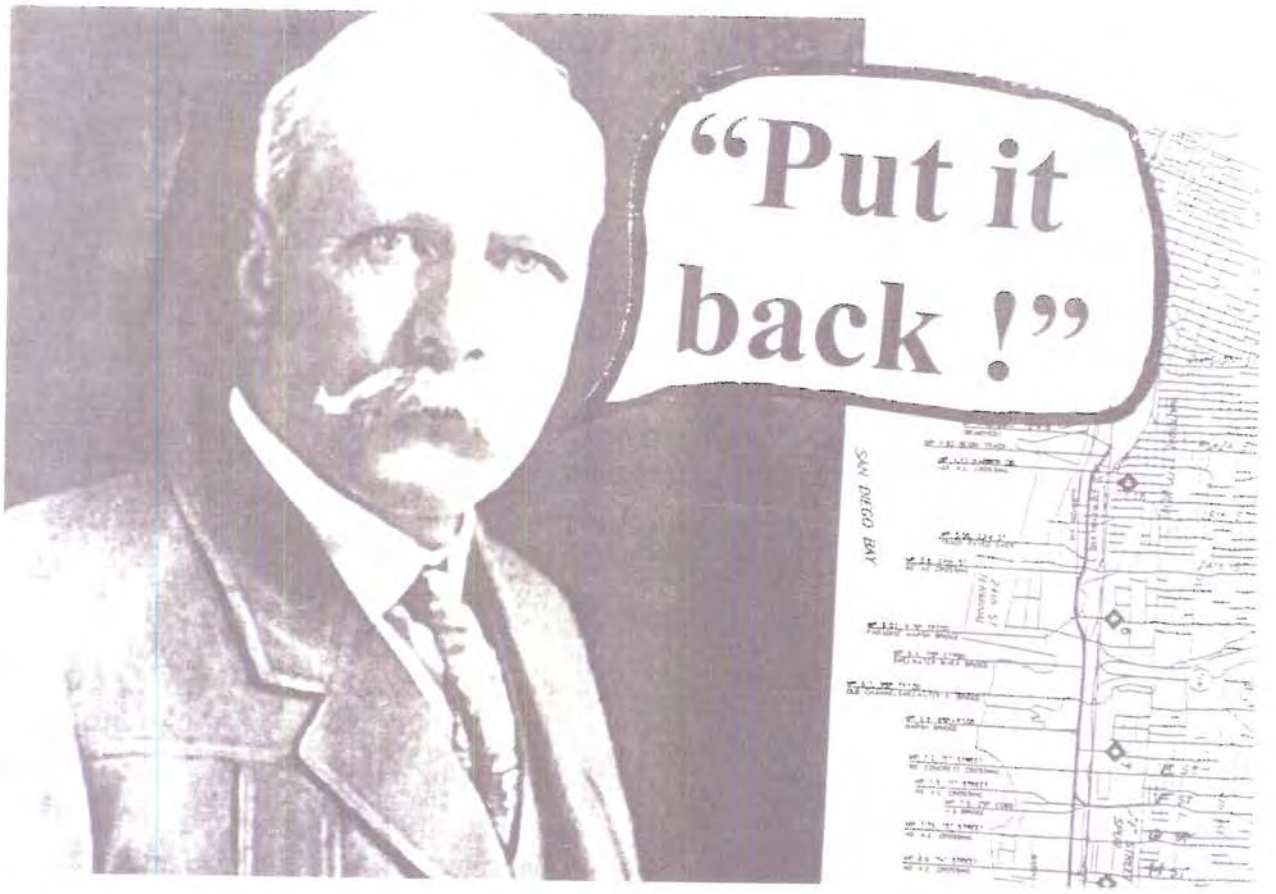
San Diego & Midwestern Railway Partners ; LLC

Images Courtesy:

Pacific Southwest Railway Museum Research Library

Thomas Brothers Maps & Imperial Express Study 1999

SANDAG 1996 South Bay Excursion Train Study



J.D. Sprekels

#22

“I have been a resident in Imperial Beach for nineteen years. I live within two house of the proposed project and we as residents have many concerns. First would be the noise and the traffic as a consequence of such a proposed expansion. Traffic as it is, is already three fold from when we first moved here. Also, the noise from the helicopters is over the top. This morning, 8/21/14, at 1:00 am - 1:45am the neighborhood close to the proposed base was harassed by touch and goes at the proposed site. The helicopter was so low that is shook the windows and the house. If this is the sign of things to come, we as residents WILL rally against this proposal. It is obvious that the nave and those in charge of this site have no regard for the residents here. 22-1 22-2

There is also a question about the Lease Turns that nest here as well as the shrimp that are only indigenous to that site. I'm fully against the proposal and will do whatever I can to educate the residents about said plan. The mayor thinks that the "traffic" will bring revenue to the community of IB, but at what expense? 22-3

I know that this a dog and pony show and the government will do as it pleases. If you are for such a proposal at the expense of the residents in Imperial Beach, then put it in your neighbor hood! ” 22-4

Email Address: sjcmerrill@gmail.com
Full Name: Steven Robert Merrill
Phone Number: 429 - 8228

NBC Coastal Campus EIS Comments

Generated on Sep 18, 2014 at 14:52 UTC

Comment #30

#23

Posted on Sep 11, 2014 at 17:18 PDT

I live in the Coronado Cays, and I am very concerned about the impact of the Naval Campus this proposed. After reading the study I do not believe that than enough time was spent on ways to reduce traffic congestion, noise and light pollution from such a large installation. During peek hours it is already difficult to get through to I-5 through Coronado or Imperial Beach. The treatment of the intersection into the Base is not very well explained and looks like a big problem.

23-1

23-2

Please take a closer look at what you want to accomplish. I believe you can do a better job and with less impact on Coronado residents.

23-3

Posted by:
Jim Besikof
JIMBESIKOF@AOL.COM
6193410560

Comment #31:

#24

Posted on Sep 12, 2014 at 11:55 PDT

My request is that we do not see buildings from High 75.That the landscape continues to look as it does now - natural.

24-1

Posted by:
A Diane Sadlier
adianesadlier@gmail.com
6199858842

Comment #32:

#25

Posted on Sep 16, 2014 at 12:34 PDT

I support the City of Coronado in their concerns about the Navy's Coastal Campus. Especially on the environmental impact to the wetland and coastal habitat of wildlife.

25-1

We love the Navy in Coronado, but we love our environment too.
Thank you

Posted by:
Linda Williamson
lwsd@aol.com
619-423-2906

Comment #33:

Posted on Sep 17, 2014 at 10:49 PDT

#26

COMMENTS ON NBC COASTAL CAMPUS

I am a 20+ year resident of Coronado, living in the Coronado Cays. During this time I have personally witnessed the growth of excessive vehicular traffic on the highways running through our city. In 2008, Admiral Herring, then Commander of US Navy Southwest Region, recognized this trend and sponsored a public hearing aimed at getting public input on "Mitigating Traffic to Coronado Bases". His call for input led me to conceive a plan which if implemented would eliminate up to 95% of military commute traffic serving Coronado Navy bases. I presented this plan which I dubbed the "Remote Front Gate (RFG)" at the public meeting using my allotted 3 minutes on the floor, as well as turning in a Power Point slide show to the meeting's registrar.

Admiral Herring immediately understood the potential benefits of an RFG strategy, and began a two phase project to test RFG. He worked through SANDAG to set up the first phase one-year pilot test which became known as the "Murph Express". The Murph Express featured express non-stop door-to-door bus service from Navy housing in Murphy Canyon to Coronado Navy bases. Detailed data was collected by SANDAG on ridership, etc. A very valuable result of the Phase 1 pilot was documented proof that even if presented with an optional express bus commute service, only 1% of the military commuters elected to use the Murph Express, and instead chose to continue operating their driver-only vehicles for their commute to Coronado bases.

Phase 2, namely the pilot test of the RFG strategy, never happened. One main reason is that Admiral Herring retired, and no one was knowledgeable or interested enough to pick up the ball. This is extremely unfortunate for the Navy, its military commuters, and the people of Coronado and San Diego! In addition to eliminating 95% of military commute traffic, RFG has more than enough potential benefits for all stakeholders.

- *Increased Base Security*
- *Improved Quality of Life for all Drivers*
- *Reduced Air and Noise Pollution*
- *Less use of Gasoline*
- *Solar Parking Lot Renewable Energy*

- *New Jobs for Vets*

All commuters need to report to their place of business at a definite time and place. This process is called "Mustering" in the Navy. RFG uses the identical process, i.e. military commuters would still drive their own car to their muster point; BUT with RFG, muster points would be located in the east bay and closer to the homes of the commuters. The commuter arrives at an east bay muster point, and parks his/her car under a solar roof to insure that s/he would have a relatively cool car to drive home at the end of the day. The commuter could then grab a coffee and roll, swipe an ID badge, and board a modern battery/hybrid shuttle for a comfortable ride to his/her base.

Why should Phase 2 have any better participation than Phase 1?
Participation in Phase 1 meant that the commuter had to give up his/her car after driving to the base. 99% of military commuters thought that this was unacceptable and refused to take the express bus.

The RFG strategy recognizes and solves this situation! RFG proposes to use any of a number of car sharing services like Cars2Go to enable personnel to leave their base in order to make short excursions around town for their personal reasons. These share cars would also be available for emergency use.

Unlike Phase 1, Phase 2 does not offer commuters a transportation option. Commuters would still be expected to report to a muster point at a certain time of day (as they do now).

To view the RFG strategy, click on this link --
https://www.dropbox.com/s/b7lfo65ffdp1tdi/Streamlining%20the%20Military%20Commute.ppt?dl=0

Why has RFG not been adopted by the Navy or backed by the City of Coronado?

In my opinion, the personal relations between the Navy and the Coronado City Council have degraded from poor to hostile since 2008. Ladies and gentlemen from both groups – PLEASE, for the sake of everyone, get together, smoke the peace pipe, and begin a new era of cooperation! The expected arrival of the third nuclear carrier here, and now a plan to build a new campus, will submerge Coronado in military traffic if no action such as RFG is taken. It is worthy to note that the Navy does not need to get Coronado's support in order to test and adopt RFG. An active Navy RFG strategy will remove up to 95% of military traffic going to and between the existing bases and the new coastal campus – the Navy should understand this and include RFG in its Coastal Campus plans.

26-1

Posted by:

Paul Friedl
pfriedl2001@yahoo.com
619-429-8444

Comment #34:

#27

Posted on Sep 17, 2014 at 15:23 PDT

As a reaction to the Global War on Terrorism, I strongly support the proposed coastal campus resolution to provide adequate facilities to support the Congressionally mandated growth of NSWC (Naval Special Warfare Center) on the west coast and (2) maintain the required levels of operational readiness of special warfare forces, as mandated by Title 10 U.S.C. § 167. The proposed action would include 24 projects constructed over a 10-year period at a cost of approximately $700 million, providing nearly 1.5 million square feet of facilities. Furthermore, due to the lack of sufficient facilities and space to support NSWC's administrative, logistics, and classroom and tactical instruction functions, the proposed resolution will consolidate command elements into one geographic location for efficient operations and training. As a member of the Armed Forces, once stationed in San Diego and having visited Coronado on several occasions, I can relate to the importance of having adequate training facilities to execute mission planning and operational readiness. In my experiences, inadequate training facilities and "traveling to train" only lead to poor performance and a lack of interest that can have adverse effects on the mission. The projected 30 year growth rate of traffic is highlighted in Volume 1 of 2 of the Environmental Impact Statement. However, how will the immediate influx of traffic affect the area after the 10 year project is completed? Although the recommendation to carpool and avoid peak hours is given, how will this immediately affect the local people and public transportation?

27-1

27-2

Because of the strategic and geographic importance of the current NWSC site in Coronado, considering the 14 other alternatives to re-locate the facility would only impede the mission of NWSC and not meet the criterion thereby not supporting the Fleet, Fighter and Family. If no action was taken, NSWC would continue to have limited space for current and future training and operations support, as well as an inability to undertake the Congressionally mandated growth resulting in a lack of mission readiness and affecting our homeland's safety and security. The results of the CEQ analysis on the environmental effects of the coastal campus are minimal and it is not anticipated to contribute to impacts to federally listed plants or wildlife because no occupied habitat would be permanently impacted. In addition, there are no anticipated adverse effects to any non-federally listed rare or sensitive wildlife species, or wildlife corridors. This proposal will be a great economic benefit for Imperial Beach and Coronado, thus adding to the storefront retail business. I strongly support the coastal campus proposal.

Posted by:
Samantha Walter
sailorsam87@live.com
440-213-6877

City of Imperial Beach, California

OFFICE OF THE MAYOR

825 Imperial Beach Blvd., Imperial Beach, CA 91932 Tel: (619) 423-8303 Fax: (619) 628-1395

September 17, 2014

NBC Coastal Campus EIS Project Manager
Attn: Ms. Teresa Bresler
2730 McKean Street, Bldg. 291
San Diego, CA 92136

RE: Naval Base Coronado (NBC) Coastal Campus Draft Environmental Impact Statement (EIS)

Dear Ms. Bresler:

Thank you for the opportunity to provide comments on the Environmental Impact Statement (EIS) prepared for the proposed Coastal Campus located at Naval Base Coronado. The City of Imperial Beach (the "City") values its partnership with the Navy in addressing the occasional issues that arise in relation to Navy activities. Imperial Beach is proud to be home to a number of Navy service personnel that have found much needed housing in our community and it is anticipated that the proposed Coastal Campus will have positive economic benefits to the City with increased business patronage and activity.

The Coastal Campus will potentially influence Imperial Beach more than any other recent Navy instigated activity. The impacts identified in the EIS and the issues raised in this letter are important to Imperial Beach and need to be addressed to ensure the construction of the Coastal Campus will yield positive results while minimizing negative impacts. From past experience, Imperial Beach has learned that environmental documents need to be complete and consistent. It is with this perspective that the City offers its comments.

Based upon the City's review of the EIS and the impacts it identifies, the City's primary concerns pertain to Traffic and Circulation and Utilities impacts and the proposed Mitigation Measures and Impact Avoidance and Minimization Measures identified in the EIS in these respective areas. As such, please accept the following general comments and requests regarding these areas of concern:

Traffic

1. The EIS identifies a number of intersections within and outside the City that will be impacted by development of the Coastal Campus. The City requests that the Navy work with the City and the City's traffic engineering consultant (KOA Corporation) to develop a mitigation program to address the traffic impacts identified in the EIS. One focus of primary concern to the City is the intersection of Silver Strand Boulevard and Palm Avenue that is already impacted by traffic from the existing entry gate to the Naval Radio Receiving Facility. Even though the EIS does not identify significant impacts due to the project at this intersection, the City anticipates that additional traffic generated from the proposed Coastal Campus, both during and post-construction, would impact this and other nearby local streets and intersections. Mitigation measures for this intersection that

28-1

should be considered include: the relocation of the southern gate at the north end of Silver Strand Boulevard farther north onto Navy property to provide increased queuing distance to reduce the amount of traffic congestion that might otherwise occur on Silver Strand Way; installing appropriate traffic control mechanisms at Silver Strand Way to control east/west traffic on Palm Avenue; instituting modified hours of operation (i.e. between 10:00 a.m. to 2:00 p.m.) for the southern gate; and consideration of restricting the southern gate to pedestrian and bicycle traffic only. 28-1 Cont.

2. The City requests that all identified traffic impact Mitigation Measures and specifically identified traffic Impact Avoidance and Minimization Measures of the EIS be funded and implemented prior to and/or with construction of the proposed Coastal Campus and completed by 2024. The design and construction of these improvements should be developed in close coordination with Caltrans and the cities of Imperial Beach, San Diego and Coronado. This would help to address the significant traffic impacts identified in the EIS that could otherwise adversely impact the cities of Imperial Beach, San Diego and Coronado. 28-2

3. The City requests that the Navy work with Caltrans, the City, and the City of San Diego to design and implement traffic signalization modifications and/or signal rephasing throughout the entire Palm Avenue/SR-75 corridor from I-5 to the proposed northern entry gate of the proposed Coastal Campus. City staff has been evaluating and analyzing the traffic and circulation along Palm Avenue/SR-75 as part of its Palm Avenue Mixed Use and Commercial Corridor Master Plan and has made preliminary determinations that, through signal timing and phasing modifications, significant improvements to levels of service can result. Given the significant number and increase of average daily vehicle trips of 8,886 with the proposed Coastal Campus, along with the significant and potentially significant impacts to traffic that the proposed Coastal Campus will create, the City requests that the Navy fund the study and implementation of a comprehensive traffic signalization re-timing and re-phasing effort for the Palm Avenue/SR-75 corridor from I-5 to the proposed Coastal Campus to help mitigate the identified significant traffic impacts. 28-3

4. As part of the above-requested traffic signalization modifications, the traffic signals along SR-75 should be upgraded to incorporate the latest technology that provides more effective signal synchronization and efficiency in order to deal with the increased traffic that would result from the project. The Navy should work with the City's traffic engineering consultant to examine signal lights that can react to current traffic conditions without "timed delays" at intersections when no traffic is present and examine preferential treatment of east/west traffic during peak hour traffic, and limit turning movements onto Palm Avenue/SR-75 during peak traffic periods. 28-4

5. The City does not have a traffic impact fee system and, therefore, does not have the funds programed to install street and traffic signal improvements and/or to maintain the improvements as a result of this project. As mitigation, the City believes that the Navy should participate in and/or fund the cost of completing the necessary upgrades to the intersections and traffic signals along Palm Avenue/SR-75 to accommodate the traffic increases clearly resulting from the proposed project. Rather than simply identify the problem, there should be actual mitigation of the impacts based on the fact that the City will be significantly impacted by a decision wholly outside of its jurisdictional purview. 28-5

6. Underground conduits for a traffic light at the Palm Avenue and Rainbow Drive intersection have already been installed. As the EIS identifies potential impacts to this 28-6

intersection resulting from the proposed project, the City requests that the Navy install this signal as a part of the Coastal Campus project. 28-6 Cont.

7. To further mitigate traffic impacts identified in the EIS, the City requests that the Navy develop and implement a Transportation Demand Management (TDM) Plan that would encourage and promote the use of alternate modes of transportation to and within all Navy facilities including the proposed Coastal Campus. Such TDM measures should include but not be limited to: 1) promoting and implementing carpools and vanpools and the use of public transit to and from Navy installations including the Coastal Campus; 2) designing the Coastal Campus to be pedestrian and bicycle friendly and providing bicycle parking and/or a shared bicycle program within the Coastal Campus; 3) implementing shuttle service between Navy facilities in Imperial Beach and Coronado; 4) implementing an internal shuttle service within the Coastal Campus to transport military and non-military Navy personnel within the Campus and to the southern gate and promoting walk-in or bike-in traffic into Imperial Beach to minimize vehicle trips through the southern gate during lunch hours; and 5) providing north- and south-bound bus stops at the northern entry gate along SR-75. 28-7

8. If resulting traffic and observed traffic speeds of vehicles leaving the southern gate and along Palm Avenue warrant it, the City requests that the Navy install Radar Speed Signs at the midpoint of Silver Strand Blvd. on the east and west sides of the street and at the midpoint of Palm Avenue between Rainbow Drive and Silver Strand Blvd. on the north and south sides of the street. 28-8

9. Through existing mutual aid agreements, the City's emergency services will be partly responsible for responding to emergencies along Highway 75 from the Imperial Beach/Coronado city limits to the Coronado Cays entrance. The City notes that the EIS may not adequately address the provision of these services and the mutual aid agreements regarding public safety services that may arise from the proposed Coastal Campus. 28-9

In addition to the foregoing general comments, the City has the following comments regarding specific sections of the EIS:

Executive Summary (pages ES-1 through ES-57)

10. The Traffic and Access Improvements discussion of the Executive Summary (page ES-15, lines 13 through 17) state that the "existing southern controlled access gate would remain open; however, use of this gate would be limited to current traffic volumes with construction of the exposed entry control point." This seems to imply that only the amount of traffic that currently uses the southern gate, which is very minimal, will continue to use the gate upon project completion. However, if it "remains open" it is unclear how the Navy would limit access to the gate only to "current traffic volumes." The City requests, therefore, that the southern gate be restricted to access only during non-commuting hours (i.e., access only between 10:00 AM and 2:00 PM) to mitigate the identified traffic impacts in the primarily residential neighborhood surrounding the southern gate. The City also requests that the entry control point of the southern gate be located several hundred feet within Navy property to allow for adequate (and overflow) vehicle queuing and/or stacking that would otherwise occur on Silver Strand Way. 28-10 28-11

11. The Traffic and Access Improvements discussion (page ES-15, lines 23 through 33) of the Executive Summary identifies future traffic improvements (P-991) for several intersections in and near Imperial Beach. For the Rainbow/SR-75 intersection, this includes "restriping of the traffic lanes on Rainbow Drive and adjusting the intersection traffic signal phasing" by 2024. However, mitigation measures of the EIS itself and the Summary of Effects Table ES-3 of the Executive Summary do not include adjusting the traffic signal phasing. The City requests that the Navy work with Caltrans and the cities of Imperial Beach and San Diego to modify the traffic signal phasing of all intersections within the Palm Avenue/SR-75 Corridor between the proposed Coastal Campus and I-5 to address the significant increase of 8,886 ADT expected with the implementation of Alternative 1. This would also help facilitate the implementation of the Palm Avenue Mixed Use and Commercial Corridor Master Plan on which the City has been working since 2007 and is currently being designed and prepared for environmental analysis. 28-12

12. The Cumulative Impacts discussion of the Executive Summary (page E-19, lines 18 through 23) states that "traffic generation associated with military and civilian projects that are completed, in progress, or planned for development in Coronado and Imperial Beach have been factored into SANDAG's traffic forecasts" and that "regional-level planning has taken place to consider associated traffic levels" such that "when added to the impacts from other potentially cumulative projects, the Proposed Action (Alternative 1) would not result in significant cumulative impacts to traffic and circulation." SANDAG, however, has advised the City and its traffic engineering consultant that this not accurate. Additionally, the EIS itself identifies significant impacts to traffic and circulation for several intersections in Imperial Beach and San Diego along Palm Avenue/SR-75 with Levels of Service at D and F for several intersections both in 2024 and in 2040 which will adversely impact the City of Imperial Beach, its residents, workers and visitors. 28-13

13. The Mitigation Measures and Impact Avoidance and Minimization Measures of the Executive Summary (Section ES.6.11, page ES-20) states that NEPA requires that the Federal Agency (the Navy) provide the means to mitigate adverse environmental impacts of the Proposed Action alternatives and goes on to state that mitigation measures "are proposed for implementation during the design, construction, and postconstruction states of the Proposed Action to minimize and avoid potential significant impacts." Given that significant impacts to traffic and circulation are identified in the EIS and mitigation and impact avoidance and minimization measures are proposed, the City requests that the Federal Government (Navy) fund the implementation of these measures during design and construction of the project by 2024. 28-14

14. The Summary Table of the Executive Summary (Table ES-3, page ES-44) states that "significant and unmitigable temporary traffic impacts may occur during the construction phase of the project along the transportation route between the Proposed Action footprint and I-5 in Imperial Beach." The City requests that all reasonable measures be taken to reduce or mitigate these impacts in the City to the maximum extent possible. 28-15

15. The Mitigation Identification and Implementation Table of the Executive Summary (Table ES-4, page ES-56) identifies mitigation measures, their benefit, evaluation criteria, implementation, responsible command and date of implementation. For the significant Traffic and Circulation impacts, Table ES-4 identifies the Responsible Party as "Host or Tenant Command, as appropriate and Caltrans and the City of Imperial Beach." As noted above, since the identified impacts are a direct result of the proposed project, the 28-16

City believes and, therefore requests, that the Navy be responsible for the costs to design and implement the required mitigation measures. 28-16 Cont.

Chapter 3.9 – Traffic and Circulation

16. The City opposes the "Construction North, Operations South" Construction Scenario as this would create "significant and unmitigable impacts" at several intersections in Imperial Beach (Chapter 3.9.2.4, page 3.9-35 lines 5 and 6) and requests, therefore, that the "North Only" Construction Scenario be utilized. Although the "North Only" Construction Scenario would also have significant and unmitigable traffic impacts, they would occur primarily along Palm Avenue/SR-75 which already carries most traffic through Imperial Beach and would minimize adverse impacts to the residential neighborhood surrounding the southern entry gate. However, all construction-related impacts should be minimized to the maximum extent possible. 28-17

17. Depending upon the year and number of Nuclear-Powered Aircraft Carriers (referred to as "Carrier Vessel Nuclear or CVN's") that are in port, the EIS identifies significant traffic impacts at anywhere from 5 to 8 intersections in Imperial Beach. Given these significant impacts, the City requests that the Navy work with the City of Imperial Beach to implement all of the identified mitigation and improvement measures as well as other Palm Avenue/SR-75 corridor improvements currently being designed by the City to mitigate these impacts. All such measures should be funded and implemented by the Federal Government/Navy by 2024. 28-18

18. Chapters 3.9.2.2.1 (Existing with 1 CVN Conditions) and 3.9.2.2.2 (Existing with 2 CVNs Conditions) of the EIS identify existing levels of service (LOS) for the "7th Street and Silver Strand Blvd (SR-75)" (Intersection 19) at "F" for the AM peak period and "E" for the PM peak period. The City has reviewed several traffic analyses recently for projects proposed along Palm Avenue/SR-75 and has also conducted its own traffic analysis for the Palm Avenue Mixed Use and Commercial Corridor Master Plan all of which show substantially better results for this intersection. The City requests and recommends that the Navy's traffic engineering consultants revisit the intersection delay/LOS for this location for accuracy since the results do not replicate actual conditions in the other recent studies the City has reviewed for this location which show better results. 28-19

Chapter 3.12 – Utilities and Public Services

19. The City supports the Navy's proposal to connect to and provide significant upgrades to the City's sanitary sewer system, however, because the sewer capacity model that the Navy may have discussed with the City's consultant RBF may be outdated, an updated analysis of the project impacts to the City's sewer conveyance system should be performed. 28-20 The Navy should work with the City on modeling the sewer capacity and identify areas where upgrades are needed in the system. Additionally, the City does not have funding allocated for the proposed sewer upgrades and, therefore, would need to have them designed and constructed by the Navy as part of and to adequately serve the proposed Coastal Campus project. The EIS identifies replacing the entire sewer line to pump station 5 and along Imperial Beach Blvd between 4th and East Lane. Again, the City does not have funds to perform these upgrades and there may be other impacts to the City's wet wells and downstream conveyance system that are not considered in the EIS analysis. 28-21

20. It is our understanding that the Navy's stated proposal in the EIS to connect to the City's sanitary sewer/wastewater system may require Local Agency Formation Commission (LAFCO) approval. Although the City supports and would assist with the Navy's proposed connection to its sanitary sewer system, it is the City's expectation that the Navy will be exclusively responsible for all procedural, design, and construction costs associated with this stated intention including all costs associated with obtaining any required LAFCO or other jurisdictional approvals. 28-22

21. A natural gas line enters the Coastal Campus site through the southern gate and will likely be routed from that point to the new buildings. The EIS did not state whether that gas line entering the base from the City is sized sufficiently to meet their needs. If not, then the upsizing of that gas line will come through the City disrupting the community and potentially damaging City streets. The City requests that the Navy analyze this gas line to determine its adequacy to serve the proposed Coastal Campus and to identify any needed upsizing of this line. 28-23

Chapter 3.5 – Water Quality and Hydrology

22. In the mitigation chart, item 3.5 Water Quality and Hydrology, the EIS states that the alternatives would create new impervious surfaces that would alter on-site and off-site drainage patterns. The EIS also states that Alternative 1 proposes improvements to the existing storm water drainage system to accommodate increases in runoff. However, this facility is immediately adjacent to the Camp Surf detention pond that accepts runoff from the surrounding areas including drainage from the City of Imperial Beach. During the winter, this pond fills up such that the installed pump on Camp Surf needs to discharge water from the pond into the ocean. At times, the pond gets so full that water will not run off City streets and the City ends up with significant ponding (two feet or more) near the intersection of Carnation Avenue and Seacoast Drive. Until the Camp Surf pond discharge pump can pump out enough water, the ponding will remain on City Streets sometimes for several days. The runoff, surface or subsurface, from this development into the detention pond will only make the ponding in the City streets more severe and of a longer duration. Flooding of the adjacent residences at Carnation Avenue and Seacoast Drive is a concern. The City requests, therefore, that the Navy consider alternatives to mitigate this existing flooding condition that will likely be exacerbated with construction of the proposed Coastal Campus. 28-24

Chapter 4.0 – Cumulative Impacts

23. Projects Not Identified in Table 4-1:

The following projects were not and should be identified, analyzed and considered in the preparation and analysis of cumulative environmental impacts in the proposed Coastal Campus project EIS:

28-25-1

a. **City of Imperial Beach Commercial Zoning Review/Update** – this was a comprehensive update of all three of the City's commercial zones approved by the City Council in August 2012. The Zoning Update included the C/MU-1 Zone extending along Palm Avenue/SR-75 from the boundary with the City of Coronado to the City of San Diego. The City's environmental consultant, AECOM, prepared a Draft Program Environmental Impact Report (PEIR) in 28-25

28-25-1 Cont.

accordance with CEQA for this General Plan/Local Coastal Plan (LCP) and Commercial Zoning Amendments Project. A 45-day public review and comment period was provided pursuant to CEQA Guidelines Section 15105 for the Draft PEIR (SCH# 2011041048) from April 19, 2012 to June 4, 2012. The PEIR identified potentially significant and significant impacts that were not included, considered, or analyzed in the Navy's EIS. The PEIR determined that the proposed project could have potentially significant environmental effects in the areas of Air Quality, Paleontological Resources, and Noise with mitigation measures identified that would reduce the potential environmental impacts to these resource areas to below a level of significance. The PEIR also found that Implementation of the proposed project would result in significant and unavoidable impacts to Greenhouse Gas (GHG) Emissions, Hydrology and Water Quality, and Transportation and Traffic. Implementation of the mitigation measures identified in the PEIR would reduce impacts to an extent; however, even with the proposed mitigation, the GHG emissions, hydrology and water quality, and transportation and traffic impacts would remain significant and unavoidable requiring the adoption of a Statement of Overriding Considerations. Transportation Demand Management (TDM) strategies are also proposed as mitigation.

28-25-2

b. **Bikeway Village Project & General Plan/LCP Amendment –** On May 2, 2012, the City Council adopted approved a General Plan/Local Coastal Program Amendment, the final Mitigated Negative Declaration (MND/SCH# 2012031034) and discretionary permit approval for the Bikeway Village project. Bikeway Village proposes the conversion/adaptive reuse of two approximately 15,000 square foot warehouse structures at 535 Florence, 536 13th Streets and on vacant parcel at the northern terminus of 13th Street in Imperial Beach.

28-25 Cont.

28-25-3

c. **Breakwater Shopping Center –** this project, which is expected to begin construction in early 2015, will be a 46,200 square feet retail shopping center at the southwest corner of 9th Street and Palm Avenue/SR-75. The project was approved by the City Council on December 14, 2011 (for which a State-mandated automatic three-year extension of time will be granted this December) along with approval of a Mitigation Negative Declaration (SCH #2011111018). The Mitigated Negative Declaration (MND) prepared for this project and was routed for public review from November 7, 2011 to December 7, 2011 and submitted to the State Clearinghouse for agency review. The City conducted an Environmental Initial Study (IS) that determined the proposed project could have a potentially significant environmental effect in the areas of Aesthetics, Biological Resources, Cultural Resources, Geology and Soils, Hazards and Hazardous Materials, Hydrology /Water Quality, Noise, and Transportation/Traffic. However, the MND identified mitigation measures that will avoid or reduce all potentially significant environmental effects to below a level of significance.

28-25-4

d. **Bicycle Transportation Plan and Eco Route Bikeway Project & General Plan/LCP Amendment –** on April 1, 2009, the City Council approved an Amendment to the Circulation Element of the General Plan/Local Coastal Plan and certification of an Environmental Impact Report (EIR, SCH# 2007101061), adoption of a Bicycle Transportation Plan (BTP) with policies for bicycle facilities and route designations, and an Administrative Coastal Development Permit for a traffic calming improvement plan from 7th Street to 3rd Street within the Palm Avenue right-of-way. Among other proposed projects, these actions resulted in

the reduction of Palm Avenue between 7th and 3rd streets from a four-lane street to a two-lane street with Class II Bike Lanes and on-street parking. Given that significant and potentially significant impacts to traffic and circulation have been identified in the EIS as a result of the proposed Coastal Campus project, this EIR and the Eco Route Bikeway Project should be included and analyzed in the cumulative impact analysis of the EIS.

e. **Palm Avenue and Carnation Avenue Street End Project –** this is a Port of San Diego project for the improvement of two City street ends, Palm Avenue and Carnation Avenue, between Seacoast Drive and the beach. The project was designed and intended to provide improved and enhanced coastal access to and along the beach. The Palm Avenue Street End portion of the project has been constructed, however, the Carnation Avenue portion is dependent upon the granting of a 20-foot easement by and from the Navy and this portion of the project is, as yet, unfunded. An environmental impact report was prepared, circulated for public review and approved by the City for this project in August of 2006 (SCH# 200231106).

28-25-5

f. **Palm Avenue Mixed Use & Commercial Corridor Master Plan –** the City completed and the City Council approved the Palm Avenue Commercial Corridor Master Plan Study in February 2009 which proposed right-of-way improvements for the Palm Avenue/SR-75 corridor focused on improving pedestrian safety and walkability, enhancing the corridor's overall aesthetics and appearance, and improving functionality of the vehicular corridor while maintaining acceptable traffic levels of service in order to create a "main street" environment. In July 2013, SANDAG awarded grant funding to the City to prepare design drawings for the Palm Avenue Mixed Use and Commercial Corridor Master Plan and to prepare an environmental review document for this project. Work began on this effort in January 2014 and continues today. City staff has been closely coordinating with Caltrans and SANDAG and with the City's residents and businesses in the preparation of the drawings. The City has also engaged the Navy in the design and outreach effort. Given that significant and potentially significant impacts to traffic and circulation have been identified in the EIS as a result of the proposed Coastal Campus project, this EIR and the Palm Avenue Mixed Use and Commercial Corridor Project should and must be included in the cumulative impact analysis of the EIS.

28-25-6

28-25 Cont.

g. The indoor shooting range (MILCON P-876) that was given a Categorical Exclusion but details of the project were not provided to the City. The Court ruled in the street ends lawsuit against the City of Imperial Beach and the San Diego Port District that separate projects need to be cumulatively analyzed in the environmental document and cannot be excluded. The City needs details of the project in order to conduct an adequate analysis of cumulative impacts in the City's environmental documents.

28-26

Climate Change/Sea Level Rise

24. The City and the Tijuana River National Estuarine Research Reserve (TRNERR) are currently each underway with sea level rise (SLR) studies to assess the potential impacts that sea level rise may have on the City and the Tijuana Estuary. There have also been sea level rise studies done for Naval Base Coronado (through SPAWAR) and for other jurisdictions in the vicinity of the proposed Coastal Campus. The City requests,

therefore, that the Navy carefully consider the potential impacts to Imperial Beach that SLR may have as in connection with the development of the proposed Coastal Campus. 28-27

Chapter 5.0 Mitigation Measures and Impact Avoidance and Minimization Measures

25. The City firmly believes that all Mitigation Measures T-1 through T-6 identified on pages 5-20, 5-21 and 5-24, in Chapter 5.9.1.1 of the EIS should include traffic signal modification and rephasing for each identified affected intersection as stated in the Executive Summary (page ES-15). The City requests that the traffic signalization for all other signalized intersections in the Palm Avenue/SR-75 corridor between Interstate 5 and the northern entry gate of the Coastal Campus also be modified and rephased to mitigate the identified significant traffic impacts. The Navy should work closely with Caltrans and the cities of Imperial Beach, Coronado and San Diego to implement these traffic signal and intersection modifications. 28-28

26. Mitigation Measure T-4 on page 5-21 of the EIS calls for the elimination of the eastern crosswalk at the intersection of 13th Street and Palm Avenue/SR-75 in Imperial Beach. The City does not support the elimination of this crosswalk. The Palm Avenue Commercial and Mixed Use Corridor Master Plan on which the City has been working since 2007 is now in the design and environmental review phase and is intended to promote pedestrian safety through the corridor and, therefore, proposes enhanced and clearly delineated crosswalks at all intersections along Palm Avenue/SR-75. Additionally, there is an existing eastbound MTS bus stop directly adjacent to this eastern crosswalk at 13th Street and MTS has indicated that this bus stop must have direct crosswalk access from this stop to the north. The City believes that the traffic impacts identified in the EIS for this intersection can be mitigated by signalization modification and rephrasing and other measures without having to eliminate this crosswalk. 28-29

27. The City supports Impact Avoidance and Minimization Measure t-1 (EIS Section 5.9.1.1, page 5-20, lines 4 through 8) to accelerate implementation of the new entry control point (P-947) for SSTC-South "as early as possible" to "prevent traffic in Imperial Beach from becoming excessive and to provide appropriate capacity and security facilities to process the increasing number of vehicles accessing SSTC-South." The North Gate should be completed, with ample queuing on Navy property, prior to any occupation of the new facility to avoid the creation of an unintentional traffic pattern where Navy commuters habituate to using the southern gate in Imperial Beach. Consideration should also be given to possibly installing an overpass for left turns (subject to our traffic consultant and Caltrans review) rather than a center left turn lane for north bound SR-75 traffic onto the base. 28-30

Once again, the City greatly appreciates the opportunity to be able to offer comments on the Navy's Coastal Campus EIS and the City looks forward to cooperating with the Navy, in collaboration with the cities of Coronado and San Diego and Caltrans, in resolving these issues.

Sincerely,

James C. Janney
Mayor

C: file US Navy Coastal Campus EIS
City Council
Honorable Mayor Kevin L. Faulconer, City of San Diego
Laurie Berman, Director, Caltrans District 11
Andy Hall, City Manager
Greg Wade, Assistant City Manager/Community Development Director
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Arnold Torma, KOA Corporation
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#29

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

September 15, 2014

Ms. Teresa Bresler
Navy Facilities Engineering Command Southwest
2730 McKean Street, Building 291
San Diego, California 92136

Subject: EPA Comments on the Navy Base Coronado Coastal Campus Draft Environmental Impact Statement, San Diego, California (CEQ # 20140199)

Dear Ms. Bresler:

The U.S. Environmental Protection Agency (EPA) has reviewed the above-referenced document pursuant to the National Environmental Policy Act (NEPA), Council on Environmental Quality (CEQ) regulations (40 CFR Parts 1500-1508), and our NEPA review authority under Section 309 of the Clean Air Act. Our detailed comments are enclosed.

The Draft Environmental Impact Statement (DEIS) assesses the impacts from the development of nearly 1.5 million square feet of facilities to provide for administration, logistics and community support, operational units, and training for active Special Warfare Operators or Sea, Air, and Land (SEAL) teams at a consolidated Coastal Campus at Navy Base Coronado. The DEIS states that the proposed action consists of 24 military construction projects that would be constructed over 10 years at a cost of $700 million.

The proposed development site, on a low-laying coastal peninsula that currently experiences flooding and sea-water infiltration, is vulnerable to climate change effects, particularly sea-level rise and potentially increased incidence and severity of winter storms and erosion. The DEIS does not discuss these effects, nor does it incorporate adaptation measures to protect the project. Adaptation measures, themselves, may have environmental impacts that should be evaluated. The lack of adaptation measures for development on a site with a high coastal vulnerability to sea level rise appears inconsistent with the President's Climate Action Plan and the direction of *Executive Order 13653 - Preparing the United States for the Impacts of Climate Change*, which encourages actions by the Federal government to enhance climate preparedness and resiliency in its programs and operations. This call for resilience is echoed in the May 2014 report *National Security and the Accelerating Risks of Climate Change*[1], prepared by the Center for Naval Analysis, Military Advisory Board. Relevant recommendations regarding climate change resiliency are available in the report *Sea Level Rise – Adaptation Strategy for San Diego Bay* (Jan. 2012), which was developed with the participation of Navy Base Coronado and other Navy staff. The lack of discussion of the project site's vulnerability to the effects of climate change is a serious omission in the DEIS that should be rectified in the Final EIS.

29-1

[1] http://www.cna.org/sites/default/files/MAB_2014.pdf

Based on the lack of discussion of climate change effects relevant to the proposed project, and the impacts that adaptation measures could have on environmental resources, we have rated the DEIS as *Environmental Concerns – Insufficient Information* (EC-2), (see enclosed "Summary of Rating Definitions"). These and other concerns are discussed further in the attached Detailed Comments. We recommend that the Final EIS include analyses that evaluate the potential impacts from climate change on the project; identify, describe, and, as appropriate, commit to adaptation measures that could be incorporated into the project to increase its resiliency and protect the $700 million federal investment; and evaluate the impacts of such adaptation measures on environmental resources. If the analysis of climate change effects reveals significant new information, or the incorporation of adaptation measures would constitute a substantial change in the proposed action, the Navy should consider whether further NEPA documentation and public review are warranted, pursuant to 40 CFR 1502.9(c). For future projects, we recommend that information and analysis regarding climate change impacts and adaptability measures be included in the Draft EISs.

We appreciate the opportunity to review this DEIS. If you have any questions, please refer staff to Karen Vitulano at (415) 947-4178. Please send a copy of the Final EIS to this office (mail code ENF-4-2) when it is electronically filed with our Washington, D.C. office.

Sincerely,

Kathleen Martyn Goforth, Manager
Environmental Review Section

Enclosure: Summary of EPA Rating Definitions
EPA's Detailed Comments

cc: Michael Hornick, Federal Emergency Management Agency

Flooding and Climate Change Effects

The Navy proposes to construct 1.5 million square feet of facilities for the new Coastal Campus on the Silver Strand Training Complex– South (SSTC-South) site on Navy Base Coronado. This site lies within the low-lying, relatively level coastal area on the ½-mile wide Silver Strand peninsula, between the Pacific Ocean and San Diego Bay, near sea level.

Excluding the beaches, the DEIS states that the elevation range on SSTC-South is between 10 feet above mean sea level in the southern portion to 40 feet in the north (p. 3.2-1). According to Google Earth, much of the site is below 40 foot elevation, with a substantial portion below 30 foot elevation. The DEIS does not provide a site plan, stating that the project would be a design/build project and the specific location and characteristics of the structures will not be known in detail until after award of the construction contract(s) (p. 3.2-7). Nevertheless, it implies that most of the development would be in the northern portion by stating that most of the development would be in the area not designated as tsunami inundation area (p. 3.2-5) and only structures in low-lying areas adjacent to the Pacific coast lying would be subject to damage from tsunamis (p. 3.2-9).

According to the DEIS, the potential for flooding[2] on the Coronado Peninsula is high (p. 3.5-10) and the development site at SSTC-South is susceptible to localized flooding and has been known to contain seasonal pools created by storm water runoff due to its low-lying flat terrain, poor drainage, and high water table (p. 3.5-10). Runoff from the City of Imperial Beach and sea water infiltration during high tides contribute to the seasonal formation of these pools. The impact analysis criteria include evaluating the potential for the site to result in substantial flooding or ponding of surface runoff, but the DEIS does not evaluate this factor, nor does it evaluate whether there would be a substantial increase in impervious surfaces and associated increased runoff, another impact assessment criterion (p. 3.5-10). It states only that the proposed action would increase impervious surfaces and associated runoff compared to existing conditions, without indicating how much of the 177 acre site will become impervious. The DEIS states that low impact development (LID) features will be installed and, therefore, impacts will not be significant; but it does not evaluate their use or function in this project setting (poor drainage, high water table, etc.). 29-2

EPA is particularly concerned by the DEIS' lack of discussion of the potential environmental impacts of the project in the context of reasonably foreseeable climate change effects. In particular, sea level rise -- coupled with potential increased frequency and severity of heavy rainfall events and flooding, especially during high tides, winter storms, and when exacerbated by El Niño occurrences -- could significantly impact the coastal site due to its low elevation and existing flooding issues. The U.S. Geological Survey ranked the San Diego coast as very high risk in its assessment of coastal vulnerability to sea-level rise[3]. Simulations prepared by local stakeholders predict an increasing tendency for heightened sea level events to persist for more hours, which will likely cause greater coastal erosion and related damage[4]. None of these effects are identified or evaluated in the DEIS. It is important that adaptation measures be identified and evaluated in the impact assessment, since some measures could have significant impacts to environmental resources (e.g. sea walls or massive soil importing). 29-3 29-4

[2] The Federal Emergency Management Agency (FEMA) has not designated flood zones within Navy Base Coronado since military properties are exempt from FEMA regulations.
[3] See http://pubs.usgs.gov/of/2000/of00-178/
[4] Climate Change-Related Impacts in the San Diego Region By 2050, (Aug 2009). Available: http://www.energy.ca.gov/2009publications/CEC-500-2009-027/CEC-500-2009-027-F.PDF

Executive Order 13653 - Preparing the United States for the Impacts of Climate Change encourages actions by the Federal government to enhance climate preparedness and resiliency. The recent report by the Center for Naval Intelligence Military Advisory Board *National Security and the Accelerating Risks of Climate Change* (May 2014)[5] emphasizes the importance of considering projected impacts of climate change on future training operations when building new training facilities, stating that resilience and training flexibility should be hallmarks of all future state-of-the-art facilities (p. 23). The project description in the DEIS does not identify or imply any adaptation measures to increase resilience of the proposed project to climate change. Rather, the DEIS indicates that construction of the proposed military construction projects would be accomplished without substantial changes to the existing landform (p. 3.2-7). 29-5

San Diego area local governments, with the participation of federal agencies, including the Federal Emergency Management Agency (FEMA), the U.S. Fish and Wildlife Service, and the Navy, produced the report *Sea Level Rise – Adaptation Strategy for San Diego Bay* (Jan. 2012)[6]. The report concludes that the greatest cause for concern in the next few decades will be an increase in the kind of flooding that the region already experiences due to waves, storm surge, El Nino events, and very high tides. The report emphasizes the need to plan for extreme events to become more common and more severe within this period. The recommended adaptation strategies include incorporating sea level rise and associated impacts into relevant projects, and performing more detailed vulnerability assessments at a site-specific level as significant plans or capital projects are undertaken.

The importance of adaptation planning was also emphasized in a recent Government Accountability Office Report that concluded that investing in resilience can reduce the potential impacts of climate-related events[7]. This report highlighted the vulnerability of existing DoD facilities and cited the 2014 Quadrennial Defense Review, in which DoD stated that the impacts of climate change may undermine the capacity of domestic installations to support training activities.

Recommendation: Because of the high-risk and vulnerability of the project site to the impacts of climate change – in particular, sea level rise – and the potential for adverse environmental impacts to occur as a result of measures that may be needed to reduce this vulnerability, we recommend that the Final EIS include an analysis of climate change effects on the proposed action. Include a more robust assessment of impacts from flooding from more frequent and severe storms, El Nino events, high tides along with predicted sea level rise and coastal erosion at the site. Describe the potential effects of sea-level rise on project infrastructure, including water, wastewater, stormwater facilities, roads, underground storage tanks, and existing leach fields. Identify adaptation measures that can be integrated into the project to increase its resilience to climate change effects and to minimize effects on project infrastructure. Evaluate impacts of these adaptation measures on environmental resources. 29-6

The FEIS should also identify the cumulative impacts that climate change will contribute to resources that are also effected by the project, including habitat, special status species, and effects on contaminated areas at the development site.

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[5] Available: http://www.cna.org/sites/default/files/MAB_2014.pdf

[6] Available: http://www.sdfoundation.org/Portals/0/Newsroom/PDF/Reports/SLRAStrategy_Exec_Sum.pdf

[7] U.S. Government Accountability Office, *BUDGET ISSUES: Opportunities to Reduce Federal Fiscal Exposures through Greater Resilience to Climate Change and Extreme Weather*, July 29, 2014. Available: http://www.gao.gov/products/GAO-14-504T

Air Quality

The Air Quality analysis states that, "*as shown in Section 3.9 Traffic and Circulation, the proposed project traffic would not create failing project intersections (Level of Service E/F) or worsen failing project intersections; therefore, no localized carbon monoxide (CO) impacts would occur as a result of Proposed Action alternatives*" (p. 3.3-16). However, the traffic analysis in Section 3.9 does identify several project intersections that would experience a significant traffic impact (defined as causing a shift from an LOS of D or better to an LOS of E/F, or as a greater than 2 second delay at an intersection currently operating at LOS E or F) during both construction and operations. This appears inconsistent with the statement in the air quality section that states that the proposed project traffic would not create failing project intersections (LOS E/F) or worsen failing project intersections.

The DEIS identifies several measures to minimize air quality pollutants, which are primarily for dust control. It also states that diesel construction equipment and vehicles that are compliant with applicable California Air Resources Board (CARB) Air Toxic Control Measures to reduce diesel particulate matter would be used at these sites, which are adjacent to major and minor roadways that pass through developed and populated areas (p. 3.3-17).

Recommendation: Clarify, in the FEIS, whether the conclusions regarding CO impacts considered the traffic analysis results in the Traffic and Circulation chapter. 29-7

Because the project site is located in a nonattainment area for 8-hour ozone (marginal), we recommend consideration of the following additional mitigation measures for the construction phase:

- Limit idling of heavy equipment to less than 5 minutes and verify through unscheduled inspections (Note: CARB has a number of mobile source anti-idling requirements, see their website at: http://www.arb.ca.gov/msprog/truck-idling/truck-idling.htm);
- Maintain and tune engines per manufacturer's specifications to perform at CARB and/or EPA certification levels, prevent tampering, and conduct unscheduled inspections to ensure these measures are followed;
- If practicable, lease new, clean equipment meeting the most stringent of applicable Federal[8] or State Standards[9]. In general, commit to the best available emissions control technology. Tier 4 engines should be used for project construction equipment to the maximum extent feasible;
- Lacking availability of non-road construction equipment that meets Tier 4 engine standards, the responsible agency should commit to using CARB and EPA-verified particulate traps, oxidation catalysts and other appropriate controls where suitable to reduce emissions of diesel particulate matter and other pollutants at the construction site; and
- Consider alternative fuels such as natural gas and electricity (plug-in or battery).

29-8

Hazardous Materials

The DEIS identifies two CERCLA sites (Installation Restoration Site 10 and 11) on the development site at SSTC South (p. 3.4-8). The Proposed Action would disturb residual petroleum contamination in soil and/or groundwater from former USTs and asbestos contamination in soil from IR Site 11. The DEIS indicates that further actions are still being conducted for IR Site 10. We appreciate that the DEIS states that precautions would be taken during construction to screen for potential hazardous constituents

[8] EPA's website for nonroad mobile sources is http://www.epa.gov/nonroad/.
[9] For ARB emissions standards, see: http://www.arb.ca.gov/msprog/offroad/offroad.htm.

in soil and groundwater to minimize risks to human health and the environment and protect workers, and that any contaminated soils excavated during site improvements would be managed and disposed of in accordance with Navy regulations. Construction work within the identified Installation Restoration sites also requires thoughtful coordination with the environmental program and state regulators to ensure that construction work would not disrupt ongoing remedial actions or result in changes in site conditions that would affect cleanup progress, e.g. disturbing contaminated soil or causing contaminated groundwater to migrate in a way that would disrupt an ongoing remedial investigation.

Recommendation: We recommend that the analysis in the FEIS describe how project construction would interface with, or affect, ongoing remedial actions and whether the project would affect cleanup schedules. 29-9

Sustainability

We request clarification, in the FEIS, regarding the inclusion of the following sustainability elements, which are mentioned in the DEIS, but do not appear to be required project elements:

- ***LEED Certification***
  The DEIS does not state that the new campus facilities will be green building certified under Leadership in Energy and Environmental Design (LEED) or another system. LEED is mentioned in the noise chapter where it states that new facilities would include LEED-certified heating, ventilation and air conditioning components to minimize noise (p. 3.6-15), and LEED is also mentioned in the avoidance and minimization measures for migratory birds, noting that bird-friendly designs can contribute to LEED certification (p. 5-18). We understand that it has been a DoD policy that new buildings will be certified LEED Silver. Please confirm in the FEIS that the NBC Coastal Campus facilities would be constructed to meet LEED Silver certification standards. We also understand that passage of the National Defense Authorization Act for fiscal year 2014 now allows DoD to pursue LEED Gold or Platinum certification. We recommend that the FEIS discuss the possibility of pursuing the highest feasible LEED or equivalent certification for the campus. 29-10
- ***Construction and Demolition (C&D) Debris Recycling***
  The DEIS references Commander Navy Region Southwest Instruction 11350.1B, which requires a 50% diversion of C&D debris (p. 3.12-8); however, the DEIS states that a worst case scenario of no C&D reuse on site would result in 5,400 roundtrip truck trips to haul approximately 50,000 cubic yards of demolition materials (p. 3.6-12). We recommend that the FEIS commit to at least 50% reuse of C&D debris or explain why some or all of it would have no onsite reuse potential such that it would need to be shipped offsite. 29-11
- ***Use of Rooftop Photovoltaics***
  The DEIS states that "it is not known how much photovoltaics would be used since the building design has not occurred; however, architectural projections estimate that up to 67 percent of rooftop space could be used for photovoltaics" (p. 3.12-11). We recommend that the FEIS commit to maximizing the use of photovoltaics, including on buildings and on carports in parking lots, and include this requirement in the design specifications. 29-12
- ***Graywater use in buildings***
  The DEIS states that the design features for stormwater management would offer a supplemental resource for irrigation and/or graywater use in facility buildings (p. 3.12-13). We recommend that the FEIS indicate whether the building design will include graywater use for facility buildings and, if so, commit to this design feature so it is included in design specifications. 29-13

#30

LAFCO
San Diego Local Agency Formation Commission

9335 Hazard Way • Suite 200 • San Diego, CA 92123
(858) 614-7755 • FAX (858) 614-7766
Website: www.sdlafco.org

September 18, 2014

NBC Coastal Campus EIS Project Manager
Attn: Ms. Teresa Bresler
2730 McKean Street, Bldg. 291
San Diego, CA 92136

Subject: Naval Base Coronado (NBC) Coastal Campus Draft Environmental Impact Statement (EIS)

Dear Ms. Bresler:

The San Diego Local Agency Formation Commission (LAFCO) is a state mandated regulatory agency responsible for reviewing changes to city and special district boundaries, spheres of influence, and contractual service arrangements/contracts. Although the Environmental Impact Statement (EIS) process for the proposed Naval Base Coronado Campus (NBC) did not identify the San Diego LAFCO as a stakeholder or an agency with discretionary authority, the City of Coronado has inquired of us, whether LAFCO may have discretionary authority over the wastewater component of the proposed NBC. Our conclusion is that, as currently proposed, the wastewater component of the proposed NBC is subject to the San Diego LAFCO's regulatory authority. As such, in order for LAFCO to comply with the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA), the EIS needs to be modified to include a discussion of LAFCO's discretionary authority and issues pertinent to LAFCO's authority. To avoid project delays and unnecessary duplicate environmental review under CEQA, you should work closely with any state and local agencies, including LAFCO, so that the NEPA review concurrently satisfies CEQA requirements.

The Draft EIS contains numerous references to the provision of wastewater services from the City of Imperial Beach, even though the proposed campus will be within the corporate limits of the City of Coronado (refer to EIS pages ES-16; 2-24; 2-58 and 2-59). These sections state that wastewater service will be provided by the City of Imperial Beach utilizing Imperial Beach's 6-inch wastewater line south of SSTC-South. A number of infrastructure improvements are also identified as being necessary within Imperial Beach to handle the increased wastewater demand.

You should be aware that California State Law contains provisions regulating the provision of services outside of a city or special district (Government Code Section 56133 et seq.). LAFCO serves as the regulatory gatekeeper for

compliance with this particular section of State Law. You should also be aware that Government Code Section 56133 prohibits the approval of new or extended services outside the jurisdictional boundaries of a local agency (e.g., Imperial Beach) unless the territory (NBC) is within the local agency's (Imperial Beach's) sphere of influence. Given that the proposed NBC site is within the City of Coronado and is neither within the City of Imperial Beach nor Imperial Beach's sphere of influence (refer to attached maps), compliance with this statute is somewhat problematic.

There are certain exemptions to this requirement related to threats to the health and safety of the public or affected residents; however, this exemption does not appear to apply to this project or the project area – as a health and safety threat does not currently exist. In addition, there are also certain waivers to LAFCO's purview for service arrangements/contracts between two or more public agencies. However, the federal government is not included as one of the jurisdictions eligible for a waiver per Government Code Sections 56070 and 56133. If on the other hand, the NBC proposed that wastewater service be provided by the City of Coronado either directly or via a contract between Coronado and Imperial Beach, then the wastewater component of the proposed naval base would escape LAFCO purview entirely pursuant to Government Code Section 56133(e). This is a matter that should be discussed with both cities and LAFCO. It should also be addressed in the EIS.

In summary, the San Diego LAFCO requests that the EIS identify LAFCO as a discretionary agency with purview over the provision of wastewater service. In addition, the Final EIS should contain a thorough discussion about associated infrastructure improvements; available capacity and needed upgrades; growth induction potential to surrounding uses; contractual service provisions (Government Code Section 56133) with Imperial Beach and Coronado; relationship to Imperial Beach and Coronado municipal boundaries and adopted sphere of influence; overall compliance of the NBC with Government Code Section 56133; and opportunities for coordination between federal, state, and local agencies regarding NEPA and CEQA requirements, particularly related to the provision of wastewater services to the NBC. 30-1

If you have any questions about the San Diego LAFCO's comments, please feel free to contact the undersigned.

Sincerely,

MICHAEL D. OTT
Executive Officer

MDO:trl

Attachments
Imperial Beach Jurisdictional/Sphere Map
Coronado Jurisdictional/Sphere Map

cc: Mayor James Janney (Imperial Beach)
Blair King, City Manager (Coronado)

City of Coronado

LEGEND

- City of Coronado
- Sphere of Influence (SOI)
- San Diego Bay

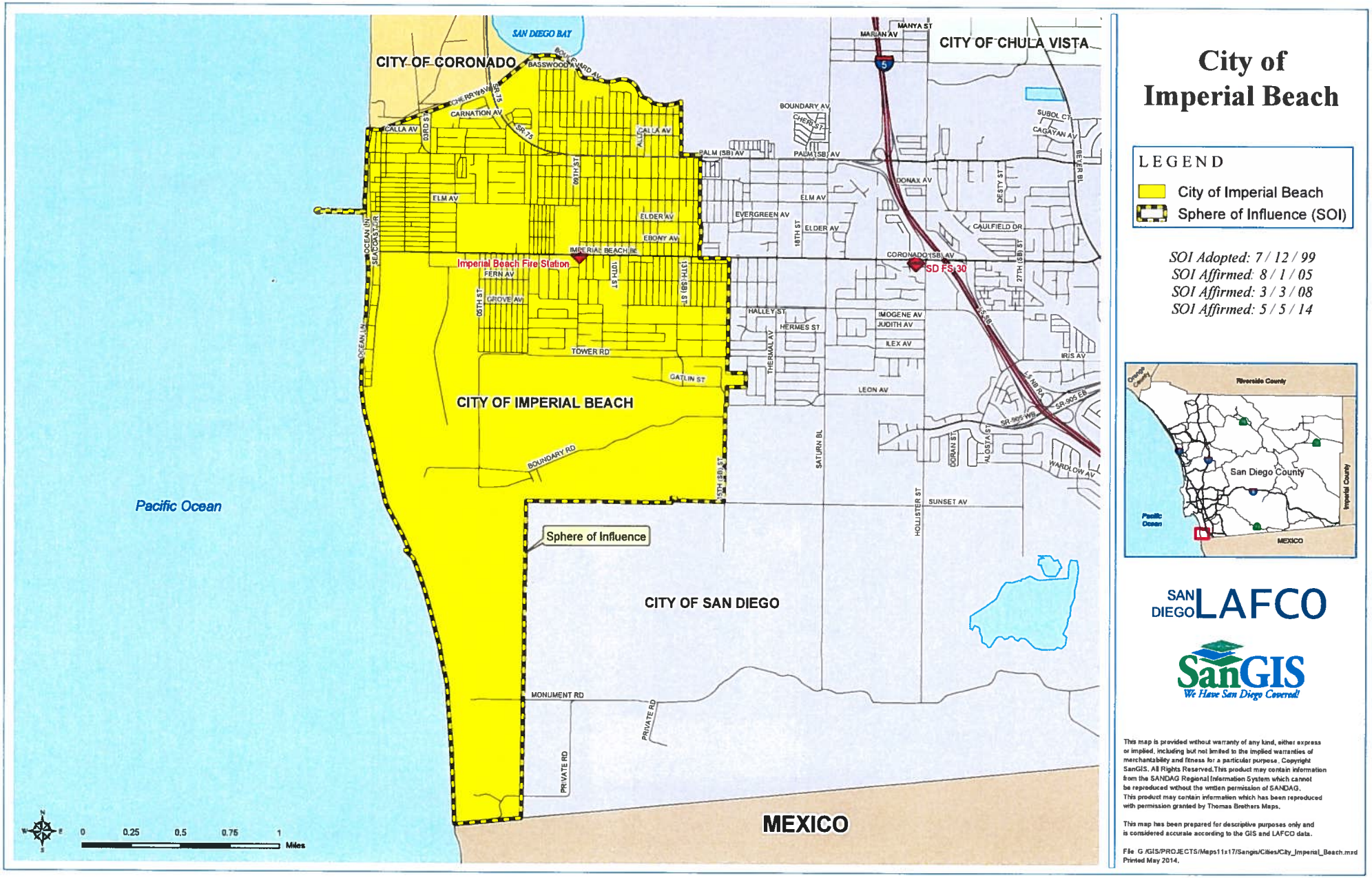
SOI Adopted: 3 / 2 / 87
SOI Affirmed: 8 / 1 / 05
SOI Affirmed: 3 / 3 / 08
SOI Affirmed: 5 / 5 / 14

SAN DIEGO LAFCO

SanGIS
We Have San Diego Covered!

This map has been prepared for descriptive purposes only and is considered accurate according to the GIS and LAFCO data.

File: G:/GIS/PROJECTS/Maps11x17/Sangis/Cities/City_Coronado.mxd
Printed September 2014.



City of Imperial Beach

LEGEND

- City of Imperial Beach
- Sphere of Influence (SOI)

SOI Adopted: 7 / 12 / 99
SOI Affirmed: 8 / 1 / 05
SOI Affirmed: 3 / 3 / 08
SOI Affirmed: 5 / 5 / 14

SAN DIEGO LAFCO

SanGIS
We Have San Diego Covered!

This map has been prepared for descriptive purposes only and is considered accurate according to the GIS and LAFCO data.

File G:\GIS\PROJECTS\Maps11x17\Sangis\Cities\City_Imperial_Beach.mxd
Printed May 2014.

DEPARTMENT OF TRANSPORTATION
DISTRICT 11, DIVISION OF PLANNING
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SAN DIEGO, CA 92110
PHONE (619) 688-6960
FAX (619) 688-4299
TTY 711
www.dot.ca.gov

#31

Serious drought.
Help save water!

September 8, 2014

11-SD-75
PM 17.6
Naval Base Coronado DEIS

Ms. Teresa Bresler
NBC Coastal Campus
2730 McKean Street, Bldg. 291
San Diego, CA 92136

Dear Ms. Bresler:

The California Department of Transportation (Caltrans) has reviewed the Draft Environmental Impact Study (DEIS) for the Naval Base Coronado project near State Route 75 (SR-75). Caltrans has the following comments:

Traffic:

- On Figure 7-2, for the SB-75 U-turn pocket at Hooper, the total length should be the deceleration length of 485 feet plus approach bay taper. This change should reflect on Synchro as well. Truck turning template should be ran for this U-turn. If it doesn't meet truck turning requirement, advisory Design Exception will be needed for this U-turn movement. 31-1

- At the proposed intersection of SR-75 and Hooper, left turn lanes will narrow down the median width so thrie beams and proper crash cushions will need to be installed. 31-2

- SR-75 and Hooper intersection requires an ICE evaluation. The ICE evaluation must be done during the Environmental Phase, and not Design Phase, because it helps to determine all possible alternatives for the intersection of SR-75 & Hooper. 31-3

Stewardship/Permits:
The proposed project site is within the Coastal Zone and coordination with the California Coastal Commission and/or the City of Coronado will be needed. 31-4

Storm Water Compliance:
For the Caltrans encroachment permit and project elements within the State Highway System, the project shall demonstrate compliance with applicable water quality regulations. This includes consistency with the following State Water Resources Control Board, National Pollutant Discharge Elimination System (NPDES) permits: 31-5

- Local MS4 permit regulations (Small Municipal Separate Storm Sewer Systems)
- Caltrans NPDES Permit 2012-011-DWQ (CAS 000003)

- Construction General Permit 2009-0009-DWQ (CAS 000002)

31-5 Cont.

Biological Resources:
Nuttall's Lotus plants occur on roadway shoulder areas along State Route 75. Proposed changes to access the site from State Route 75 may require measures to avoid, minimize and/or mitigate impacts to the plant.

31-6

Visual Resources:
The visual review dated March 3, 1014 is still applicable to the project and Draft EIS. This review memo is attached for reference.

31-7

Right of Way (R/W):
The R/W for SR-75 within the Federal ownership is not access controlled. The original deed contains a provision that the Navy can construct any ingress/egress at their discretion.

31-8

General Comments:
Any work performed within Caltrans right-of-way (R/W) will require discretionary review and approval by Caltrans and an encroachment permit will be required for any work within the Caltrans R/W prior to construction. Current policy allows Highway Improvement Projects costing $1 million or less to follow the Caltrans Encroachment Permit process. Highway Improvement Projects costing greater than $1 million but less than $3 million would be allowed to follow a streamlined project development process similar to the Caltrans Encroachment Permit process. In order to determine the appropriate permit processing of projects funded by others, it is recommended the concept and project approval for work to be done on the State Highway System be evaluated through the completion of a Permit Engineering Evaluation Report (PEER). A PEER should always be prepared, regardless of the cost of improvements, when new operating improvements are constructed by the permittee that become part of the State Highway System. These include but are not limited to, signalization, channelization, turn pockets, widening, realignment, public road connections, and bike paths and lanes. After approval of the PEER and necessary application and supporting documentation an encroachment permit can be issued.

31-9

In order to expedite the process for projects sponsored by a local agency or private developer, it is recommended a PEER be prepared and included in the Lead Agency's CEQA document. This will help expedite the Caltrans Encroachment Permit Review process. The PEER document forms and procedures can be found in the Caltrans Project Development Procedures Manual (PDPM).
http://www.dot.ca.gov/hq/oppd/pdpm/pdpmn.htm
http://www.dot.ca.gov/hq/traffops/developserv/permits/pdf/forms/PEER_(TR-0112).pdf

As part of the encroachment permit process, the applicant must provide an approved final environmental document including the California Environmental Quality Act (CEQA) determination addressing any environmental impacts within the Caltrans' R/W, and any corresponding technical studies. If these materials are not included with the encroachment permit application, the applicant will be required to acquire and provide these to Caltrans before the permit application will be accepted. Identification of avoidance and/or mitigation measures will be a condition of the encroachment permit approval as well as procurement of any necessary

31-10

regulatory and resource agency permits. Encroachment permit submittals that are incomplete can result in significant delays in permit approval. 31-10 Cont.

Improvement plans for construction within State Highway R/W must include the appropriate engineering information consistent with the state code and signed and stamped by a professional engineer registered in the State of California. Caltrans Permit Manual contains a listing of typical information required for project plans. All design and construction must be in conformance with the Americans with Disabilities Act (ADA) requirements. 31-11

The Intersection Control Evaluation (ICE) policy checklist is required to evaluate any intersection modification on state facilities. Attached is the link to the ICE policy. http://dot.ca.gov/hq/traffops/liaisons/ice.html 31-12

Additional information regarding encroachment permits may be obtained by contacting the Caltrans Permits Office at (619) 688-6158. Early coordination with Caltrans is strongly advised for all encroachment permits.

If you have any questions, please contact Roger Sanchez of the Development Review branch at (619) 688-6494.

Sincerely,

JACOB ARMSTRONG, Branch Chief
Development Review Branch

#31

STATE OF CALIFORNIA
OFFICE MEMO
STD. 100 (Caltrans 11/93) dwc/OLA

DATE: March 3, 2014

TO: Gretchen Eichar
Environmental Analysis, Branch A

FILE NUMBER 1114914008
DISTRICT 11

FROM: Tim Mann, LA 4143
Environmental Planning, Visual Analysis

ROOM NUMBER MS 242
PHONE 619-688-4255

SUBJECT: **Intergovernmental Review (IGR)**
Naval Base Coronado (NBC) Coastal Campus
Visual Impact Assessment (VIA)

Following a review of Section 3.14, Aesthetics, of the Draft Environmental Impact Statement (EIS), we find the visual assessment of the proposed project to be in general compliance with accepted standards for visual analysis.

While a formalized VIA is not presented in the EIS, the referenced section provides the analysis necessary to identify changes in the visual environment. The section includes a description of the visual resources baseline conditions, visual characteristics, existing land uses, and potential visual resource impacts occurring as a result of the project. Additionally, the analysis identifies sensitive viewer groups and locations for potential visual conflict. The document includes a description of project alternatives and compares these with the existing site conditions, identifying key viewpoints and simulating the proposed project. While the general presentation does not adhere to Federal Highway Administration (FHWA) format specific to visual impact assessment, the analysis addresses the general guidance for Visual Resource Management (VRM) visual contrast assessment.

Visual resources include features of landform, water surface, vegetation, and cultural modifications (physical changes caused by human activities) and provide the landscape with aesthetic visual qualities. These visual resources are evaluated through identified view sheds, natural or manufactured, and are studied to assess whether an action (project) would appear compatible with the established features of the setting, or contrast noticeably and unfavorably.

The primary viewpoints of this project are located within SSTC-South and visible traveling north and southbound on SR-75 and the Bayshore Bikeway. Additionally, due to distance from the viewers, there is limited visibility of the existing Bunkers from off-site (highway) locations. The height of the proposed structures would be consistent with the profile of the existing buildings; however, the location and number of buildings will increase the visibility of facilities from southbound SR-75.The design and appearance of all structures would fit the visual setting (character) and would be ‘attractive, landscaped, and receive proper maintenance’, in keeping with NBC policies and current practice. The view shed

modifications are not anticipated to be perceived as substantial, dramatic, adverse, or controversial, and not result in significant adverse visual impact.

The cumulative impacts to the visual environment from development of the NBC Coastal Campus, along with other past, present, or future development at Silver Strand State Beach, and within the City of Imperial Beach, would be less than significant.

For all alternatives, measures minimizing the overall visual affect of the project are included in Section 5.0, the Mitigation Measures and Impact Avoidance and Minimization Measures. These measures are similar for all alternatives.

In addition, the post-construction conditions of SR-75 would continue to comply with the five (5) legislatively required elements for official scenic highways under Section 261 of the Streets and Highways Code.

Again, we find the visual assessment of the proposed project to be in general compliance with accepted standards for visual analysis. Please don't hesitate to contact us with any additional questions or comments. 31-13

cc: Mr. Constantine Kontaxis, File

#32

United States Department of the Interior

OFFICE OF THE SECRETARY
Office of Environmental Policy and Compliance
Pacific Southwest Region
333 Bush Street, Suite 515
San Francisco, CA 94104

IN REPLY REFER TO:
(ER 14/461)

Filed Electronically

22 September 2014

Teresa Bresler
Naval Facilities Engineering Command Southwest
2730 McKean Street, Building 291
San Diego, CA 92136

Subject: Review of the Draft Environmental Impact Statement (DEIS) for the Proposed Naval Base Coronado Coastal Campus, CA

Dear Ms. Bresler:

The Department of the Interior has received and reviewed the subject document and has no comments to offer. 32-1

Thank you for the opportunity to review this project.

Sincerely,

Patricia Sanderson Port
Regional Environmental Officer

cc: OEPC Staff Contact: Loretta B. Sutton, (202) 208-7565; Loretta_Sutton@ios.doi.gov

#33

401 B Street, Suite 800
San Diego, CA 92101-4231
(619) 699-1900
Fax (619) 699-1905
www.sandag.org

September 22, 2014

File Number 3330300

NBC Coastal Campus EIS Project Manager
Attn: Ms. Teresa Bresler
2730 McKean Street, Bldg. 291
San Diego, CA 92136

Dear Ms. Bresler:

SUBJECT: Naval Base Coronado Coastal Campus Environmental Impact Statement

Thank you for the opportunity to comment on the Naval Base Coronado (NBC) Coastal Campus Environmental Impact Statement (EIS) which proposes to include 24 projects constructed over a ten-year period at a cost of approximately $700 million, providing nearly 1.5 million square feet of facilities. The EIS considers three NBC installations as locations to support this proposed project — Naval Air Station North Island (NASNI), Naval Amphibious Base (NAB) Coronado, and the Silver Strand Training Complex (SSTC)—all located within ten miles of each other.

Our comments are based on policies included in the Regional Comprehensive Plan (RCP) and the 2050 Regional Transportation Plan and Sustainable Communities Strategy (2050 RTP/SCS) and are submitted from a regional perspective emphasizing the need for land use and transportation coordination and implementation of smart growth principles.

Smart Growth and Multi-modal Transportation

The 2050 RTP/SCS provides a multi-modal approach to meet the region's transportation needs. As such, it is requested that the traffic analysis for this project also consider balancing the needs of motorists, transit riders, pedestrians, and bicyclists, and include the following impact analysis.

A key goal of the RCP is to focus growth in smart growth opportunity areas. The proposed project is located adjacent to the Palm Avenue Mixed Use and Commercial Corridor Master Plan, an ongoing planning effort being conducted by the City of Imperial Beach and funded in part by the SANDAG *TransNet* Smart Growth Incentive Program. The revitalization of Palm Avenue presents an opportunity to transform the primary commercial spine of the City of Imperial Beach into a vibrant pedestrian and bicycle friendly 'Main Street' corridor composed of distinct districts and nodes.

The City of Imperial Beach has been working closely with SANDAG to plan for this multi-modal corridor in support of regional goals to provide a wide range of mobility options. Encouraging and supporting biking, walking, and transit can help mitigate impacts on traffic, air quality, community health outcomes, and others. The expansion of the NBC Coastal Campus is an excellent opportunity to coordinate with the City of Imperial Beach on local plans and strategies to support non-vehicular travel modes for NBC Coastal Campus employees and visitors. Please consider ways that the proposed development can support the 2050 RTP/SCS vision for a well-connected multi-modal transportation network. 33-1

Additionally, when analyzing future (2050) traffic conditions, SANDAG recommends using the transportation network included in the RTP Reasonably Expected funding scenario. 33-2

Transportation Demand Management

In August 2014, a Memorandum of Agreement was executed between SANDAG and Navy Region Southwest to jointly develop and implement a marketing program aimed at reducing drive alone work trips of civilian and military employees at Naval Base Coronado. Navy Region Southwest established the following goals for the program:

1. Enroll 300 individuals in the Navy's Transportation Incentive Program (TIP) program between February 2014 and March 2015 (baseline of 1,161 enrollees as of December 2013).
2. Reduce vehicle count at gates by 1 percent by March 2015.
3. Raise awareness of TIP and iCommute programs from the 2012 baseline survey results.
4. Double registration in the iCommute Guaranteed Ride Home program to 150 individuals.

In 2013, a baseline commute mode and behavior survey was conducted by San Diego State University, and in 2014 SANDAG assisted NBC with establishing baseline traffic counts at the entrance gate at the end of 3rd Street in Coronado. A follow-up survey of employees will be conducted at the end of the campaign (September 2015) to evaluate the effectiveness of the campaign.

SANDAG and San Diego Metropolitan Transit System (MTS) worked with NBC to reconfigure an existing on-base shuttle service to improve the coordination with MTS Route 901 and thereby facilitate more commuter use of Route 901 during the peak commute periods.

The program includes marketing and outreach activities designed to increase awareness of, and utilization of the federally subsidized transportation benefits that already exist. To date, the partnership has produced new marketing collateral; a dedicated military web page on the iCommute website; and iCommute staff have conducted four outreach events at NBC.

In considering mitigation for regional transportation impacts, please continue to consider alternatives to driving alone during peak periods, such as carpooling, vanpooling, shuttle services, telecommuting, and flexible work hours, and the potential of a Transportation Demand Management (TDM) plan as a part of this project. Additionally, a parking management plan can assist with reducing parking demand and encourage the use of transportation alternatives. The SANDAG TDM division can assist with TDM and parking management strategies as a part of this project. 33-3

SANDAG Subregional Growth Forecast

The 2050 Regional Growth Forecast is one of the first steps in developing the 2050 RTP, and is used to inform the SCS and the Regional Housing Needs Assessment per California Senate Bill 375 (SB 375) (Chapter 728, Statutes of 2008). In addition, the forecast information is used to evaluate future applications for the region's Smart Growth Incentive Program and support local capital improvement and water resource planning throughout the region.

The proposed NBC Coastal Campus expansion was not accounted for in the Series 13 Subregional Growth Forecast. SANDAG requests coordination on future updates of the forecast to ensure that any changes in land use and/or employment are incorporated for use in regional planning efforts. 33-4

Other Considerations

It is advised that the project applicant consult with MTS, the transit service provider within the project area, and Caltrans to coordinate planned highway improvements. Coordination with the City of Imperial Beach and City of Coronado is also encouraged. 33-5

Conclusion

We appreciate the opportunity to comment on the EIS for the NBC Coastal Campus. We encourage, as appropriate, consideration of the following tools based on SANDAG publications, which can be found on our website at www.sandag.org/igr.

(1) Designing for Smart Growth, Creating Great Places in the San Diego Region
(2) Planning and Designing for Pedestrians, Model Guidelines for the San Diego Region
(3) Trip Generation for Smart Growth
(4) Parking Strategies for Smart Growth
(5) Regional Multimodal Transportation Analysis: Alternative Approaches for Preparing Multimodal Transportation Analysis in EIRs
(6) Integrating Transportation Demand Management into the Planning and Development Process - A Reference for Cities
(7) Riding to 2050, the San Diego Regional Bike Plan
(8) Healthy Communities Atlas

33-6

If you have any questions or concerns regarding my comments on this project, please contact me at (619) 699-1943 or susan.baldwin@sandag.org.

Sincerely,

Susan Baldwin

SUSAN BALDWIN
Senior Regional Planner

SSTR/SBA/ais

#34

CITY OF CORONADO

1825 STRAND WAY
CORONADO, CA 92118

OFFICE OF CITY MANAGER
(619) 522-7335
FAX (619) 522-7846

September 17, 2014

Ms. Teresa Bresler
Naval Base Coronado, Coastal Campus EIS Project Manager
2730 McKean Street, Building 291
San Diego, California 92136

Re: City of Coronado comments on Draft Environmental Impact Statement (EIS) prepared for proposed Naval Base Coronado Coastal Campus, Coronado, California.

Dear Ms. Bresler:

The City appreciates the opportunity to review and comment on the above referenced document. After review, the City has determined that further analysis is warranted for the project; particularly as it relates to Alternative I and associated Traffic and Circulation; Utilities and Services; Aesthetics; Noise, and Cumulative Impacts. The attachment provides detailed comments regarding the EIS, and identifies pages and/or statements on which the City requests further information, explanation or analysis. 34-1

The proposed "Coastal Campus" containing over 1.5 million square feet, to be implemented over a 10-year period, along with its associated tenants, activities, training, schools, and ancillary base services, is not a small project but a significantly large addition/build-up to a naval base within Coronado City limits that has been minimally operational until the last few years. It is a significant project to the adjoining communities of Coronado and Imperial Beach and to the south bay region as a whole. The City in concert with Imperial Beach requests that the Navy partner with surrounding communities and take a more responsible, pro-active approach to its proposed action and associated environmental impacts, and undertake creative project modifications/adjustments or additional mitigation measures to further minimize the impacts associated with this project to the adjoining communities of Coronado and Imperial Beach. 34-2

As you know, our community is already significantly impacted with traffic on all major arterials leading to and from the two existing naval bases within the community during morning and afternoon commuter traffic, including nearby residential streets that are also affected. There is noise from traffic and aircraft activities at North Island and associated degraded air quality (residual soot from traffic, truck and airplane exhaust). Impacts also include emergency support 34-3

services such as fire and police for enforcing traffic laws and responding to incidents; and ever diminishing public access along coastal shorelines due to training activities and endangered biological resources. The increased impacts to these already stressed resources due to the Coastal Campus project will undoubtedly result in additional, significant, and adverse cumulative environmental impacts to the community. 34-3 Cont.

This development will have long lasting ramifications on the neighboring communities of Coronado and Imperial Beach and the region. As noted in the EIS on page ES-2, "*The purpose of the Proposed Action is to (1) provide adequate facilities to support growth of Naval Special Warfare Command on the west coast and (2) maintaining the required levels of operational readiness of special warfare forces, as mandated...*" The EIS further states, "*Naval Special Warfare Command is located at NAB and directs the Navy's Special Operations Force. It is the lead maritime component of USSOCOM*" headquartered in Florida.

This EIS prepared for the Coastal Campus (Special Warfare Command operations) is the third environmental document to address and analyze base training activities, operations, facilities, and expansion needs to meet the "Congressional mandate" for military readiness at Naval Base Coronado. Each of these documents has separately analyzed the gradual, build-out and intensification of use at what in effect, is a new sub-base called "Coastal Campus" located within the City of Coronado. The EIS prepared for the Silver Strand Training Complex identified new training operations and activities, expanded training areas and tempos, and increased numbers of new squadrons, flight patterns, and helicopter activities within this area; The Environmental Assessment (EA) prepared for the Helicopter Wings Realignment and MH-60R/S Helicopter Transition also identified new helicopter squadrons, increased helicopter operations, new support facilities and increased personnel.

Each of these environmental documents has failed to analyze the cumulative impacts of past, present, and reasonable foreseeable future actions and projects at this Campus. All of the documents have independently concluded there are no significant or cumulatively significant environmental impacts. 34-4 The City believes the Congressionally mandated needs and directives to the U.S. Navy, and focused by the Navy at its facilities on Naval Base Coronado are leading to increased personnel, facilities, activities, training, and infrastructure within one small geographic area, and within the City of Coronado. 34-5 The City believes there are environmental impacts associated with these expanded actions on: traffic levels, services, aesthetics, and noise to name a few. The intensity of actions and scope of development should not exceed the environmental carrying capacity of the Silver Strand and the community of Coronado as a whole. Further project modifications are necessary to minimize both short-term and long-term environmental impacts associated with the Special Warfare Command planned operations at the Coastal Campus, and the cumulative impacts of Naval Base Coronado operations on the City as a whole. 34-6

Comments on the Draft Naval Base Coronado Coastal Campus Environmental Impact Statement (EIS) 2014

The City of Coronado has reviewed the Draft EIS and requests that the following additional environmental analysis, questions and comments be addressed in the Final Environmental Impact Statement.

CUMULATIVE IMPACTS:

This is the third Navy environmental document that the City has reviewed in the last several years. As stated on many occasions during public comment on past environmental documents, the Navy continues to piece-meal long term plans for base re-development over several environmental documents. The EIS prepared for the Silver Strand Training Complex (SSTC) in 2010 did not address the "NBC Coastal Campus" project in the cumulative analysis section. That EIS essentially laid out the foundation for activities that would be occurring within the Coastal Campus area, and now this EIS, as a separate environmental document, analyzes the new buildings and infrastructure necessary to support the new activities and operations analyzed in the previous EIS. Additionally, the EIS prepared for the Helicopter Wings Realignment project in 2011 did mention the project, (at that time called "Navy Special Warfare Master Plan SSTC) in the cumulative analysis section; however, indicated it was not feasible to analyze the project because the details were not known. These examples, alone, demonstrate that the environmental analysis for the growth that is occurring within NBC Coronado is being segmented/bifurcated over several different EIS documents. 34-7 34-8 34-9

The City disagrees with the cumulative impacts analysis that concludes that there will not be significant Traffic, Noise, Aesthetic, and Coastal impacts. The proposal is essentially adding/developing a 3rd active military base as part of Naval Base Coronado. Approximately 10,000 square feet of existing building area is to be demolished and a total of 1,495,000 square feet of new building is to be constructed with the project. The expansion and build-out occurring now will lead to future expansions and intensification of activities because the structures, facilities, and infrastructure will be in place to accommodate the growth. The EIS does not adequately analyze the cumulative impacts associated with this project and eventual re-development that will occur at Naval Amphibious Base with the demolition of buildings and removal of activities. 34-10 34-11

1. What is the long range plan for the Naval Amphibious Base (NAB) Coronado? As noted on P. ES-4, "*NAB is home to nearly 6,000 active duty, selected reserve military, and civilian personnel and is the only naval amphibious installation on the west coast and one of two amphibious installations in the U.S.* NAB Coronado serves as the base of operations for the Commander of Naval Special Warfare Command. What will happen to land uses and area utilized at NAB that are being transferred to Silver Strand South Complex? The EIS does not address these future land uses. The last record the City has of a Master Plan for NAB is dated 1983. At that time it was acknowledged that the majority of buildings were small, World War II, single story structures and there was inefficient use of land at NAB. Many of the existing building were constructed during 1953-1973 and the effective life-span/utilization may be ending. What is the long range plan for 34-12 34-13 34-14

NAB and when will "redevelopment" occur? The EIS does not address the replacement buildings and uses at NAB, and is flawed in its cumulative analysis. 34-14 Cont.

2. The cumulative impact cannot be adequately analyzed by the Navy without a Master Plan document for Naval Base Coronado. Does a Master Plan document exist? If a document exists, the EIS should identify and analyze the activities, buildings, and infrastructure planned in the cumulative analysis section. If a Master Plan does not exist, one should be prepared so the Navy can adequately analyze impacts associated with planned base activities within the City of Coronado. 34-15 Preparation of a Master Plan does not seem to be uncommon as reference was made to the development of a Naval Special Warfare Master Plan for Silver Strand Training Complex in the cumulative analysis section of the EA prepared for the Helicopters Wings Realignment project in 2011. Without a Master Plan, each individual unit stationed within NBC develops its own plan for expanded facilities based upon its own operations needs and mission. Each activity, then undertakes its own separate environmental analysis irrespective of the other planned undertakings of a sub-base or the NBC as a whole. Environmental review has become segmented with individual 34-16 environmental review occurring for pieces of a larger overall picture; the Master Plan and mission for the Navy and NBC. The City supports the mission of the Navy, the military personnel, and their families. **The City is requesting that the Navy support Coronado, and complete a thorough cumulative impact analysis of its past, current, and planned facilities and operations for Naval Base Coronado.** 34-17 Proper planning will enable both the Navy and Coronado to collaborate and address potential issues ***to*** resolve impacts so that we can co-exist and partner as neighbors for the next 100 years. Planning would include measures such as redesigned entrances, pedestrian under/over passes, and improved public transportation internal to NAB. 34-18

TRAFFIC AND CIRCULATION:

3. The Traffic Impact Executive Summary acknowledges that the intersection of Orange Avenue (SR-75) and Fourth Street (SR-75) was identified to "*not have reasonable or feasible mitigations for the NBC Coastal Campus*". The project is considered an impact because it worsens an existing Level of Service (LOS) F condition. The level of service declines further when two CVNs are in port. Yet, the document indicates "*there was no reasonable mitigation for this location*" and …with 2 CVNs in port, "*would be considered a significant and unavoidable impact*". **Mitigation must be provided for the Fourth Street and Orange Avenue intersection, such as development and implementation of a Traffic Reduction/Improvement Program.** 34-19

4. The EIS does not contain information regarding the Navy's implementation of a Traffic Reduction Program or planned action items to reduce vehicular traffic to and from the sub-bases within (NBC), and the associated degradation of levels of service within the streets/highways of Coronado. **The Navy should develop, commit, and implement a Transportation Reduction/Improvement Program for NBC to reduce individual vehicle trips and incentivize alternative modes of transportation to and from Coronado, which would result in a zero net gain in daily trips as a result of this project.** Such items could include: 1) Design the Coastal Campus to be pedestrian/bicycle and or shuttle oriented rather than vehicular based with pedestrian/bicycle/shuttle alternative modes of transportation coupled with this basic design feature, 2) Establish and fund an Intra-Base shuttle system to provide transportation to and from sub-bases within NBC; 3) Charge parking fees for vehicles parking at parking lots; 4) Create parking policies 34-20

and reduce the availability of on-site parking to discourage single vehicle occupancy use and incentivize use of alternative modes of transportation and 5) Establish and further fund carpool and vanpool programs to encourage alternative modes of transportation for all sub-bases within NBC; 6) Reinstate the Ferry service directly to NASNI with active Navy funding participation in the program; 7) Provide additional bus stop in both directions at proposed Hooper signalized intersection and funding to improve service levels of mass transit between the sub-bases of NBC; 8) Provide a new bike and pedestrian path along the west side of SR-75 between the new gate and Imperial Beach to connect with intersection improvements to facilitate bicycle and coastal access to an area where connection does not exist; 9) Implement mandatory alternating days of commuter carpooling; 10) Provide entry gate carpool/vanpool lane(s) and premium carpool/vanpool parking locations on base; 11) Provide additional funding to staff each entry point gate with sufficient security personnel to maintain a throughput capacity equal to the vehicles accessing the base (i.e. do not allow Navy vehicles to queue on Caltrans or City streets impacting mobility through Coronado; and 12) Incorporate base/bases into car share program service areas (for one-way car share programs) and/or provide car share vehicles and dedicate parking spaces on base (for round-trip car share programs). 34-20 Cont.

Service levels will not improve on streets/highways within the City unless strong commitments are made to implement programs that reduce single vehicle occupant use. For example, the City has made commitments along these lines by funding and implementing the Free Summer shuttle within the City. The Free shuttle has been in operation for the past two years and ridership has increased by over 500%; thereby removing vehicles from Orange Avenue during the summer. The City has also provided funding for continued commuter ferry services; participated in modified work schedules; initiated miscellaneous improvements to encourage bicycle use; and modified zoning regulations to reduce parking requirements for hotels that encourage alternative modes of transportation. Examples include providing complimentary shuttle services to airport, train station and other activity centers; complimentary transit tickets to customers and employees; free use of bicycles; and for employees, bicycle racks, shower and locker facilities. Most recently, the City has been working with SANDAG and the Navy to implement a commuter marketing plan. 34-21

5. The Navy recently installed count stations at NASNI main gate. **The City requests that the Navy install permanent count stations at the proposed Entry Control point for the Coastal Campus as well as at the three controlled gates and intersections located at Naval Amphibious Base. The count data should be provided to the City on at least a quarterly basis.** The data collection will provide the City, Caltrans, and the Navy with more information to understand traffic levels and intensities at each of the existing and proposed sub-bases within Naval Base Coronado (NBC), as well as "filed verify" anticipated traffic patterns. If traffic patterns and volumes contained within the EIS are determined to be faulty, the Navy should undertake further traffic volume reduction measures or traffic circulation improvements. 34-22

Intersection and Entry Control Point: Entry Control Point (Milcon 947): This project would involve construction of a base main gate with sentry house and anti-terrorism/force protection (At/FP) improvements including new traffic lanes for approach, queue, vehicle inspection, denial, and exit, plus reinforced fencing, a wall, traffic barrier systems, pedestrian gates, a security office, utilities, paving and site improvements, and parking.

6. Page 2-6: notes that a temporary northern access would be provided until a permanent northern entry control point can be constructed. It notes an acceleration and deceleration lane may be required both northbound and southbound along SR 75, and these improvements would be within the Caltrans SR-75 right-of-way. Clarify at what stage the northern access signalized intersection would be implemented. It is not clear whether a 'temporary' intersection would be constructed followed by a more permanent intersection or if one-time set of signalized improvements would occur at this location. **The City requests that the intersection be constructed as a first priority for the project. The traffic signal and control entry gate improvements (P947) for Silver Strand Highway and Hooper Blvd. must be completed prior to any increased activity at the unimproved Hooper entrance and that only one set of improvements occur.** The intersection and entry point should be designed in such a manner so that at no time does the level of service fall below "C". 34-23

7. Page ES-5: Any and all signal improvements or installations should be fully funded by the Federal Government. The "joint funding approach" should not be recommended as described in the Executive Summary – page v, Implementation of Potential Improvements. 34-24

8. Page ES-19 Cumulative Impacts, line 18 should state that the project will have significant impacts (especially to local roads in Imperial Beach) if the signalized intersection (P947) is not constructed. 34-25

9. Page 3.9-38 and 7-1: NBC Coastal Campus Internal Circulation states that the internal circulation would not result in any significant on-base or off-base traffic impacts, and that adequate queuing and storage lengths will be provided. Does this account for security screenings at the ECP? What rate of vehicles entering the base from the ECP was used to determine the queuing capacity on base property (is this the average rate of entry?), and how does the queuing space on base property relate to the queuing space in the right and left turn pockets off of SR75? Figure 2-4 of the EIS provides a diagram of the Entry Control Point and SR-75 Improvements. The Entry Control Point is depicted approximately 300' east of the existing Hooper Boulevard gate entrance; however, the diagram notes "Security Gate location, operation and configuration to be determined." In order to avoid impacts on SR-75, the Entry Control point must be setback at a minimum distance as depicted in the Figure along with data to support the queuing length is adequate on-base to avoid impacts on SR-75. 34-26

10. Page 4-42 Assessment of Proposed Action - Evaluation without a New Entry Control Point: The City of Coronado is concerned if construction traffic is accessing the base via Hooper Boulevard without the use of a traffic signal either temporary or permanent since both construction scenarios have traffic entering the campus on Hooper Boulevard. This could cause significant back-ups/impacts on SR-75 with construction vehicles turning into the base from the northbound lanes and vehicles in the southbound lanes decelerating to turn right into the campus. The EIS does not adequately address the combined traffic impacts along SR-75 at Hooper Boulevard when the new intersection will be utilized for both base personnel and construction activities to ingress/egress the site. It should be pointed out the report states all construction traffic will access the site via Palm Avenue (Imperial Beach) yet multiple tables, including table 3.9-7 appears to indicate temporary impacts due to construction at intersections within Coronado. This contradiction should be corrected/addressed. 34-27

11. Page 2-23 Traffic and Access Improvements: The EIS does not discuss alternatives to the proposed intersection providing access to the new Entry Control Point. The EIS should identify and analyze alternatives to providing access via a control intersection. Alternatives could include a flyover or an underpass/tunnel. 34-28

UTILITIES AND SERVICES:

11. The document indicates the wastewater from the Coastal Campus project will be sent to Imperial Beach. Unless a current contract exists with Imperial Beach for Wastewater, there will be no expansion of another agency's services into Coronado. **LAFCO must verify and approve any extension of municipal services outside a city's limits and sphere of Influence.** 34-29

12. The analysis of emergency services including dispatch and medical transport is inadequate. Page 3.12-13 states "*Development of Alternative 1 would result in an increased demand for fire protection due to the new structures and personnel at SSTC-South*".

Limited fire protection service is currently provided by Federal Fire responding from Station 14 in Imperial Beach. It is stated in the draft EIS that recent field testing and response times provided data that reasonably identified current response capabilities and provided service as adequate. 34-30

Verification of the testing process and a review of the results should be provided to the Coronado Fire Department as the bordering agency that may be significantly affected.

Based on proximity, Coronado Fire Station 37 is the closest provider for emergency response for structural response and emergency medical service. What procedures are proposed for dispatching emergency response as outlined below?

- Hard line communications will result in Federal Dispatch and Federal units responding through Coronado and or Imperial Beach code 3, and potentially passing Staffed Fire Stations. 34-31
- Cellular use for initiating a response will result in Coronado PD dispatch and Heartland Fire Dispatch fielding the call with potential responses from city services or transferring the call to the Federal Dispatch resulting in further time delays for service.

13. The EIS does not appear to contain any discussion or analysis regarding emergency/disaster preparedness plans for NBC Coastal Campus. The EIS should address the emergency preparedness plans for NBC Coastal Campus in the case of an earthquake or other natural disaster. 34-32

LAND USE AND AESTHETICS:

14. Page 3.1-2 City of Coronado General Plan: The EIS indicates, "*The City's General Plan recognizes that these Federal lands are not under the city's land use jurisdiction, and designates them "Military Zone* or *for environmental habitat preservation.* Comment: While this is an accurate statement, the land use discussion should be augmented to clarify that the land is also located in the 34-33

Wildlife Preserve (Modifying Overlay) Zone and Scenic Highway (Overlay) Zone of the City's Land Use Plan. The City's standards should be included. 34-33 Cont.

Specifically, the military facilities and activities on the Naval Communication Station property west of State Scenic Highway 75 are located within the WP-Wildlife Preserve Zone of the City of Coronado. The purpose and intent of the WP Modifying zone regulations "*are to protect and preserve valuable and unique environmental resources for the enjoyment and benefit of present and future generations of Californians. The zone designation is advisory for those areas within the corporate boundaries of the City but not under the zoning jurisdiction of the City of Coronado.*" In accordance with Section 86.64.030B, "*The Design Review Commission shall review all proposed structures, signs or facilities within the WP Modifying Zone for conformance with the purpose and intent of this zone and for their visual impact on views from any public road or water way.*" 34-34

The Silver Strand was designated a Scenic Highway by the State of California in 1974. As noted in the City's Scenic Highway Element of the General Plan, a Scenic Corridor is defined by the State of California Department of Transportation as "*a band of visible land along and generally adjacent to but outside of the highway right-of-way having scenic, historical or aesthetic characteristic.*" To assist in the implementation of the Scenic Highway Element of the General Plan, the City has adopted Chapter 86.44 of the CMC establishing a Scenic Highway Overlay Zone. The regulations are designed to eliminate unsightly conditions which may distract or impair the safety of highway users, to protect views from scenic highways and to retain unusual and attractive natural and manmade features within the scenic corridor. In accordance with Chapter 86.44, all structures within the Scenic Highway should also be reviewed by the City's Design Review Commission. 34-35

15. While the City does not have direct land use controls over the Federal government, as the Navy and other governmental agencies have done in the past, the new on and off-site facilities along the Silver Strand Highway Corridor should go through the City's local Design Review Commission as an "Advisory" body on the project's design compatibility with the Scenic Highway. **The City requests that the Navy, as a neighboring community part of and within the jurisdiction of Coronado, submit conceptual plans to the Design Review Commission for review and comment.** 34-36

AESTHETICS:

16. Page ES-19 Visual Cumulative Impacts: The document states, NBC campus would be "*visually compatible with the existing building heights. No structures would be taller than 45 feet above grade with the exception of the proposed 120 foot-tall paraloft. Partial removal of the Wullenweber Antenna Array would improve the existing visual landscape of SSTC-South by providing increased opened views of the natural environment.*" Comment: The City disagrees with this statement. A recent tour of the facility revealed there are very few structures existing. Of those structures existing, the majority are one-story, with two at a height of approximately 30'. Two, rather camouflaged, bunkers exist that are approximately 45' in height. The only tall, large structure that exists is the open, Antenna Array. The Coastal Campus project proposes a series of new buildings totaling approximately 1.5 million square feet. These new buildings will be up to 45' in height, and a new paraloft structure 50' x 80' is proposed at 120' in height. While the removal of the Wullenweber Antenna Array will be a positive visual improvement to the southern end of the 34-37

facility, the City does not agree that the new structures will be visually compatible with the existing buildings and heights. The number, volume of buildings, height of buildings, and overall mass of development will be considerably different; particularly, at the northwestern side of the planned facility. 34-37 Cont.

17. Page 3.13-2 states "that while the *Proposed Action would change the existing visual setting of SSTC-South, it would not obstruct any public scenic view sheds and would not result in a significant visual impact. The proposed off-site traffic, access, and utility improvements would involve minimal permanent improvements...."these improvements would not result in significant impacts to coastal uses and resources....* P. 3.14-1-20: The document indicates the "*project would modify view sheds from SR-75, the Bayshore Bikeway, the Coronado Cays, and the Silver Strand Beach." "It would create a more intense visual appearance, including increased nighttime lighting conditions, primarily from southbound SR-75 approaching the north gated entry control point.*" The Analysis concludes impacts are not perceived as substantial, dramatic, adverse, etc., and no mitigation is proposed.

Comment: Figures 3.14-9 and 10 provide existing conditions and visual simulations of the proposed activity (Alternative 1) as viewed from southbound SR-75. The City disagrees with the conclusions of the aesthetics analysis. The visual simulations illustrate the new bulk, mass, and height in the northwest quadrant of the Coastal Campus. The proposed buildings are an added visual intrusion to the natural environment along the beach side of SR-75, a State designated Scenic Highway. The visual simulations represent no design or planning within the context/environmental setting of the Silver Strand. In addition, there will be a new roadway, security gate entrance, sentry building, parking area, bus loading/unloading, security lighting, and associated improvements near Highway 75, which presently does not exist. There will also be a new traffic signal located immediately within the State designated scenic highway and day and night-time visual intrusions as well. *As proposed*, the intersection and new entry point would add significant vehicle headlight glare in the direction of the Coronado Cays at night. **The roadway and intersection design should mitigate any headlight glare into residential areas of the Coronado Cays**. Overall, **the City requests that the entire project be re-designed to be architecturally and environmentally sensitive and compatible to the project area and surroundings.** The EIS should analyze alternatives to the paraloft tower structure to reduce visual impacts such as placing the building partially below grade; redesigning it to be an "open" rather than "enclosed" structure; or relocating it to NAB on the bayside where taller structures presently exist. 34-38

18. The boundaries of the Scenic Highway Overlay Zone extend from the edge of the Scenic Highway right-of-way for 200 feet or to the nearest ocean or bay shoreline, whichever is less (Section 86.44.160). Many of the proposed improvements are located within the Scenic Highway Overlay Zone. The proposed development should be consistent with the regulations contained within this zone particularly the following: 34-39

a. 86.44.090(B) Buildings and structures shall be so designed and located on-site as to create a harmonious relationship with surround development and the natural environment.

b. 86.44.090(C) Buildings, fences, walls or structures and plant materials shall be constructed, installed or planted so as not to unnecessarily obstruct scenic view visible from the scenic

highway, but rather to enhance such scenic views. Fences and walls shall be constructed to allow see-through wherever possible;

c. 86.44.090(D) Potentially unsightly features shall be located so as to be inconspicuous from the scenic highway or effectively screened from view by planting and/or fences, walls or grading;

d. 86.44.090(E) Insofar as feasible, natural topography, vegetation and scenic features of the site shall be retained and incorporated into the proposed development;

34-39 Cont.

The Aesthetics discussion should be modified to reflect the Community's Design Goals/standards for new development along the Scenic Highway. The City and Navy have partnered on many projects in the past within this area and along the Silver Strand to enhance the Scenic Highway. For example, the Navy and City recently worked together to remove overhead utility lines and poles at this location and south to Imperial Beach to provide an unobstructed view of San Diego bay. The EIS should reflect a commitment by the Navy to work with the adjoining cities to ensure the design of the facilities is compatible with the State Scenic Highway and guidelines. **The City requests that the new facilities visible from the Scenic Highway be shared with the City's Design Review Commission for review and comment, as an advisory action to the Navy.**

34-40

19. Why is the proposed entrance/security road in such close proximity to the existing Scenic Highway? The new road way, vertical light poles, and other facilities along with new vehicular activity should be moved further south to minimize the visual obstructions this new four-lane roadway and other improvements would have along the State Designated Scenic Highway Corridor.

34-41

20. Figure 2-6 Provides map of Entry Control Point and SR-75 Improvements. This diagram shows a new southbound right hand turn lane of 485' and a northbound left-hand turn land of 600' in length. Since about half of the new southbound right-hand turn lane is within State Park right-of-way, it is presumed some land and sand dunes will need to be moved westward. The existing fence will also have to be moved westward. **The City requests that the existing State Park dilapidated fence within the "project area" be removed and replaced with fencing that is more compatible with the natural coastal environment and consistent with the State Scenic Highway Corridor Guidelines.**

34-42

21. P.3.14-10 states "*the SSTC-South existing operations include administrative and training facilities that include helicopter activity as part of their existing training and operations; this could not be affected under this action. For this reason, visibility and presence of helicopters are considered existing conditions and are not discussed, and effects are not analyzed in this EIS.*" Comment: The City disagrees with this statement. Currently, the helicopter activity is minimal. The majority of structures that exist are only one-story. A new 120' tall paraloft tower that is 50' x 80' in size is proposed for the site along with many structures at 45' in height. Will the presence of new buildings at 45' in height and paraloft tower at 120' combined with existing helicopter activity require additional nighttime safety (flight) lighting on the new buildings?

34-43

22. The document indicates that Caltrans has reviewed the project and found the improvements are consistent with the Scenic Highway Guidelines. The EIS should describe how the project is

34-44

consistent with the Scenic Highway Guidelines and does not represent visual intrusions as described in Appendix E. 34-44 Cont.

23. In terms of any new signs for the Campus (other than name recognition of the base), the project shall comply with Government Code Section 5441 Removal of Structures, Signs. *"Except as provided in Section 5442.5, no advertising display may be placed or maintained along any highway or segment of any interstate highway or primary highway that before, on, or after the effective date of Section 131(s) of Title 23 of the United States Code is an officially designated scenic highway or scenic byway."* 34-45

24. Page 2-11 Alternative 1 SSTC South Bunker Demolition Alternative states "*Site preparation would potentially also include demolition of infrastructure and site grading and leveling*". Comment: Are there topographical maps, grading plans with elevations? How much will the existing bunker elevation be lowered? Can grade elevations be lowered to minimize new visual obstructions associated with the paraloft and new structures not to exceed 45' in height? 34-46

25. Visual simulations reflect existing and proposed building elevations as well as landscaping. Are some of the existing trees Torrey Pines, and will they remain or will they be replaced? Every measure should be taken to retain any existing Torrey Pine in its present location, or if necessary, relocated to another location on the site. 34-47

NOISE:

26. ES-32 Noise: Alternative 1 Under Impacts states "*the City of Coronado's noise limit and the City of IB's restrictions on construction noise, are limited to 7 am to 10 pm*". Although the EIS covers Coronado's noise restrictions, this section should detail the City of Coronado's restriction on construction noise, limited to 7 am to 7 pm (Municipal Code Chapter 41.14.020). 34-48

27. Page 3.6-4 discusses the City of Imperial Beach Noise Element and Noise Ordinance. The analysis beginning on P.3.6-5 does not recognize or indicate that the City of Coronado also has a Noise Element as part of its General Plan along with land use compatibility guidelines (table) similar to Imperial Beach. The City's Noise element indicates clearly unacceptable residential noise is when it exceeds 75+CNEL; 80 db(A) if exceed for 60 minutes in 24 hours and 75 db(A) if exceed for 8 hours in 24 hours. Page 3.6-7 indicates "*Sound from Navy activities was measured at various locations near residences (i.e. Coronado Cays and Imperial Beach) on 7 April 2002, between 7:00 a.m. and 12 noon, during an amphibious exercise on SSTC beach. Two of the louder SSTC sound sources involved beach landings and helicopters, and short-term sound levels at the residences ranged from 70 to 86 dBA....sound levels today would not be expected to vary much from these 2002 measurements*".

Comment: The measurements indicate the sound levels exceeded the standards contained with the Noise Element. In addition, the City's Noise Ordinance indicates the maximum one-hour average sound level permitted is 50 decibels. It appears current operations are exceeding the City's standards and acceptable noise limits for residential development, such as the Coronado Cays nearby; therefore, it is unclear how increased activities/operations, etc. will not result in additional noise and impacts to the area. Additionally, is 2002 the correct year when the noise measurements were taken 34-49

or is this a typo? What is the correct year? If it is supposed to be 2002, then the noise analysis is flawed and the City requests revised noise measurements to be taken since over 10 years has elapsed and activity and tempo levels have changed. If there is a typo, and the correct date the measurements were taken is April 2012, the City asserts, that the noise analysis is still flawed. The Record of Decision for the SSTC EIS was issued August 27, 2012. It is presumed, the increased activities, training exercises, tempos and helicopter operations identified in the EIS were not implemented/authorized until at least this time; therefore, the Noise measurements were taken prematurely and do not take into account or reflect the increased noise associated with the significantly increased activity levels planned and authorized under the SSTC EIS. 34-49 Cont.

The Noise Study should include measurements taken during simulated training exercises both during the day and nighttime reflecting the anticipated activities of both land and air (helicopter) operations. The noise study should identify the types of activities, tempos, volumes of personnel, and helicopter activity assumptions, which generated the simulated and associated noise measurement results. 34-50

28. Page ES-32 The City disagrees with the analysis leading to the conclusion, which states "*activities would add to the noise levels of the existing activities on SSTC-South and the area's ambient noise levels, which are "characteristic of the urban and transportation activities" (port and aviation) of the area.*" This area of the Silver Strand, in particular, NRRF, has had fairly minimal activity levels. With the recent SSTC EIS activating the beach area as the Silver Strand Training South Complex, the number of personnel, volume and types of activities, tempos, and helicopter operations will be increasing significantly adding increased noise to the area. The addition of permanent structures to this area to support a permanent on-site training operations at the site, along with general base activities will contribute to additional noise levels.

34-51

It is not known the degree of implementation that has occurred or will occur until many of the support facilities/infrastructure are in place at the Campus. The statement that the uses are "existing" for purposes of the noise analysis and the impacts that the past EIS project and proposed EIS project will have on the area is misleading, when it is not known whether analysis has occurred at the peak of general base training/operations. The City is concerned with the increased noise associated with both the activities described in the SSTC EIS and the facilities (new base) to support those activities described in the Campus EIS. The previous EIS analyzed periodic training activities, and the current EIS should analyze the long-term noise impacts associated with permanent operations of all activities and training occurring at this location due to the permanent infrastructure being constructed to support the ongoing uses within this sub-base.

The EIS quote above mentions aviation activities. The AICUZ recently developed for NASNl and OLF did not address any type of helicopter activities within the Coastal Campus area. Why was this activity (that may impact nearby development with items such as noise attenuation requirements) not addressed in the AICUZ? P.3.14-10 states "*the SSTC-South existing operations include administrative and training facilities that include helicopter activity as part of their existing training and operations; this condition would not be affected under this action. For this reason, visibility and presence of helicopters are considered existing conditions and are not discussed, and effects are not analyzed in this EIS.*" City has the same comment above as to whether the helicopter conditions are "existing" or whether still in planning/to be implemented phase. 34-52

Page 2-11 under Alternative 1 notes there is "*an unprepared helicopter landing zone and flight path*". Is the long term plan for an "improved" helicopter landing area? It is noted that the SSTC identified increased helicopter squadrons and activities at the site; however, it is interesting to note that the infrastructure improvements necessary to support the increased air ops are addressed within this Environmental document. It is not clear why the "activities" were analyzed in a separate environmental document from the infrastructural needs (new landing area). This is another example of how environmental impacts associated with planned operations is bi-furcated into various environmental documents. In this case, an EIS was completed for increased training activities and helicopter exercises, and a second EIS is being completed for infrastructure and support facilities to accommodate the growth at Coastal Campus. The EIS should identify the extent of "improvements" planned for the helicopter landing area. For example, what is the size of the existing and proposed "improved" landing area? Will new lighting be associated with the improvements? The EIS should identify and analyze what type of impact the alterations/expansions/improvements to the landing area will have on the type, quantity, duration, and hours of helicopter activities utilizing the Coastal Campus and associated noise generated from improved landing facilities. 34-53

29. Page 3.6-11 indicates "*Operational noise would be generated throughout the day and to a lesser degree into the evening and weekends*". Comment: The EIS Analysis recognizes there will be increased noise with construction; however, the City is also concerned with long term impacts. **The City requests the nighttime air and combat (noise producing) aetivities of NBC be reduced during the hours from 7:00 p.m. to 7:00 a.m. in compliance with the City's noise regulations.** 34-54

The document does not adequately address the increase in noise at this site associated with the gradual expansion of uses and activities that has occurred within the last 3 years, and which is planned for the next 25. **The City requests noise monitoring at sensitive noise receptor sites such as the southern and northern perimeters (near Southern Coronado Cays) of the boundaries of the Campus along with noise monitoring reports to the City**. If Noise levels exceed allowable standards, then the Navy should modify their activities to reach standards to minimize impacts. The Navy must commit to limiting exercise activities, activities, release of arsenals, guns, etc. to comply with the City's Noise ordinance with little night time activity. 34-55

The City also requests that construction activity oceur Monday through Saturday 7:00 a.m. 7:00 p.m. in conformance with the City's Noise Ordinance for construction activity. 34-56

COASTAL:

30. Pages 3.13-1 & 2 States, "*The NBC Coastal Campus would be located in a designated security zone that is under the exclusive control of the Navy and is not open to the public*". ... "*The NBC Coastal Campus would not change public coastal access. Therefore, no impacts to public access would result from implementation of Alternative 1*". What about the lateral public access that exists below the mean high tide line from Silver Strand State Beach to the City of Imperial Beach? 34-57

The EIS should recognize the latcral public access that exists and describe how the project and public's coastal access will not be impacted.

ADDITIONAL DETAILED TRAFFIC COMMENTS:

31. Page 7-23 Temporary:EIS suggests using a flagger (or temporary traffic signal) for a temporary basis until the permanent signal is installed. The use of a flagger controlling traffic on a state highway with a posted speed limit of 65 mph seems very dangerous. Please address this issue. 34-58

32. Page 3.9-4: The description of Silver Strand Blvd states that the speed limit is 65 mph however there are portions near the Village area as low as 35 mph (for example, just south of SR-75/Pomona intersection). 34-59

33. Page 7-4 Queuing Intersection Analysis: EIS used Caltrans design criteria for 55 mph and the posted speed limit is 65 mph; therefore the analysis should be completed using the correct design criteria. 34-60

34. Page 7-4 Queuing Intersection Analysis: Queuing analysis was performed with the concept layout and some delays associated with ECP operations on Hooper Blvd. What do these delays include? What level of security screening is taken into account? 34-61

35. Page 3.9-29, Fig. 3.9-8 Traffic Growth Zones: Traffic Growth Zones show a 24% growth rate in the Silver Strand Zone (including NAB area) and a 1% growth rate in Coronado Zone (NASNI not included). If the Silver Strand Zone accounts for NAB (and we are assuming that most of the growth comes from NAB rather than City growth), it seems like traffic volumes in the Coronado Zone should account for growth rates of NASNI as the Coronado Zone is directly affected by NASNI growth. If not the whole Coronado Zone, at minimum, NASNI growth, should be reflected on Third and Fourth Streets. Show how these percentages were calculated. 34-62

36. Page 4-2, Table 4-1 Past/Past/Reasonable Foreseeable Future Projects in the NBC Coastal Campus EIS ROI: City of Coronado Projects need to be updated (see most recent approved CIP dated June 2014). This should also include a project that will reconfigure the signal timing to improve the LOS at Tenth Street and Orange Avenue. 34-63

Appendix D-2 Draft Traffic Impact Study:

37. Page 3-6 Existing Conditions Geometrics: Intersection #4 – eastbound Fourth Street is shown as three through lanes and one dedicated right turn lane; the left through lane also allows drivers to turn left. 34-64

38. Page 3-7 Existing Conditions Geometrics: Intersection #16 – on Coronado Cays Blvd. there is a yield when turning right onto SR-75, not a free right-turn as shown. 34-65

39. Assessment of Proposed Action Alt. 1 Trip Data, Figure D-3a: Alternative 1 trip assignment does not include a change in the eastbound vehicles on Fourth Street at Glorietta Blvd (intersection #1) therefore it does not reflect a negative net change in the combined trip assignments (NAB and SSTC-South) for alternative 1; therefore the effect of alternative 1 on vehicles heading outbound on the bridge (both AM and PM peak hour) would increase by 18/155. Please confirm this calculation. 34-66

Why are the trip assignments for the split between Orange Avenue and Pomona Avenue different for the trip assignments for NAB and SSTC-South? 34-67

40. Traffic Analysis Appendix C – CVN Forecast: Appendix does not show how raw data was manipulated to show 1 CVN in port if there weren't any carriers in port at the time of the counts. This should be included as part of the document. 34-68

41. Traffic Related to Population/Job forecasts. (CDD) Page 1-3: Trends and Historical Data of Traffic Appendix. The report states that the population went from 27,000 (1990) to 19,000 (current) (30% change) with the population estimated to increase to 31,000 by 2030. In comparison, SANDAG's 2050 Subregional Growth Forecast shows 2008 as 23,030; 2020 as 26,348; 2035 as 27,210; and 2050 as 27,937. Please address this discrepancy as the projections developed by SANDAG apparently included input from the Military within the region. 34-69

Also, regarding SANDAG's growth forecasting and planning efforts, the 2050 Growth Forecast shows no change in employment density and jobs/acre for South Coastal Campus at the Naval Radio Receiving Facility. SANDAG shows the change in jobs population from 2008 at 27,994 up to 33,251 in 2050 representing a 0.4% annual increase in jobs. Has the Navy been participating in the forecasting for the region? It appears SANDAG and the Navy's planned improvements for the NBC have not been reflected in the regional estimates or else the mapping would have reflected the 3,000 + personnel located at this facility. Also, the number does not include the civilian personnel that may be working at the facility. 34-70

Related to these points, P. ES-19 states under environmental impacts, "*Traffic generation associated with military and civilian projects that are completed, in progress, or planned for development in Coronado and Imperial Beach have been factored into San Diego Association of Governments traffic forecasts.*" The City questions the accuracy of this statement because none of their other regional growth forecasts reflected any development and increased intensification of SR-75 and roads through Imperial Beach to Interstate 5. 34-71

42. Proposed Future Left-Turn Restrictions From Fiddler's Cove Marina: The EIS discusses implementation by 2040 of restriction on left turns out of Fiddler's Cove drive at Silver Strand Blvd. The City has determined additional environmental review and analysis of alternatives should be completed prior to implementation of any traffic control measures implemented at this location. The EIS should be revised to document that this intersection would be evaluated under separate environmental review to determine when, if, and what type of traffic control safety measures are necessary at this location. 34-72

In addition to the above items, the City of Coronado requests that the following processes be followed with the preparation and public review of this Environmental Impact Statement:

43. Public Review and Hearings: As requested previously, the City requests that all review hearings for this project by other agencies, such as the Coastal Commission, occur in San Diego to provide the City and the public with the greatest opportunity to participate in the NEPA/Coastal review process. 34-73

44. Record of Decision: As requested previously, The City requests a 45-day review period of the Final Environmental Impact Statement (FEIS) along with an additional public hearing conducted by the Navy to provide a second opportunity for the public to comment on the document, with responses from the Navy, before the Secretary of the Navy signs the Record of Decision. 34-74

#35

C.C.H.O.A.
505 Grand Caribe Cswy
Coronado CA 92118

Voice 619.423.4353
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www.cchoa.org

Homeowners Association

Ms. Teresa Bresler
NBC Coastal Campus EIS Project Manager
2730 McKean Street, Bldg 291
San Diego, California 92136

September 8, 2014

Re: City of Coronado letter and comments on Draft Environmental Impact Statement (EIS) prepared for proposed Naval Base Coronado Coastal Campus (NBCCC), Coronado, California

Dear Ms. Bresler:

The Board of the Coronado Cays Homeowners Association (CCHOA) strongly supports the Coronado City's letter and attached comments to the above referenced document as it relates to Alternative 1 and associated Traffic and Circulation; Utilities and Services; Aesthetics; Noise, and Cumulative Impacts. 35-1

This Board represents nearly 1,200 homes in our Homeowner's Association which is located on the east side of the Silver Strand about 5 miles south of the Hotel del Coronado. The proposed NBCCC will clearly have significant negative impacts for the lives of our Association's residents. In addition, the Village of Coronado and the city of Imperial Beach will experience major impacts that need to be fully understood and properly mitigated. 35-2

We therefore urge you to carefully review and respond to the Coronado City's request that follow-on additional environmental analysis be conducted and their concerns and comments be addressed in the Final Environmental Impact Statement. There are some particular areas that the Coronado Cays Homeowners believe must be addressed and made public. These include: 35-3

1. A full analysis of the cumulative impacts of the four Navy environmental documents in the past years.
2. The need for the Navy to develop, commit, and implement a Transportation Reduction/Improvement Program for the NBCCC.
3. Confirmation that sufficient utilities and public services are available for the Coastal Campus.
4. Any potential increased noise levels are properly mitigated.
5. The Navy respect that SR-75 known as the Silver Strand is a legislatively designated State Scenic Highway which has mandated guidelines to preserve and enhance this coastal resource.

The Coronado Cays Homeowners Association strongly supports our military and the need to have well trained personnel to keep our Nation strong and free. We simply urge that you properly address and mitigate where necessary the adverse impacts of constructing the proposed Naval Base Coastal Campus in south Coronado.

Harlan M Durgin

Harlan Mike Durgin, Captain USN, Retired
President, Coronado Cays Homeowners Association (CCHOA)

Cc Coronado Mayor and City Council
Coronado City Manager
CCHOA Board of Directors
CCHOA Grand Caribe Task Force

#36

“I have been a resident in Imperial Beach for nineteen years. I live within two house of the proposed project and we as residents have many concerns. First would be the noise and the traffic as a consequence of such a proposed expansion. Traffic as it is, is already three fold from when we first moved here. Also, the noise from the helicopters is over the top. This morning, 8/21/14, at 1:00 am - 1:45am the neighborhood close to the proposed base was harassed by touch and goes at the proposed site. The helicopter was so low that is shook the windows and the house. If this is the sign of things to come, we as residents WILL rally against this proposal. It is obvious that the nave and those in charge of this site have no regard for the residents here. There is also a question about the Lease Turns that nest here as well as the shrimp that are only indigenous to that site. I'm fully against the proposal and will do whatever I can to educate the residents about said plan. The mayor thinks that the "traffic" will bring revenue to the community of IB, but at what expense?

I know that this a dog and pony show and the government will do as it pleases. If you are for such a proposal at the expense of the residents in Imperial Beach, then put it in your neighbor hood! ”

36-1

36-2

36-3

36-4

Email Address: sjcmerrill@gmail.com
Full Name: Steven Robert Merrill
Phone Number: 429 - 8228

#37

Roger Benham

Date: September 15, 2014

Subject: **Request for Comments – Naval Base Coronado/I.B. Coastal Campus Proposal - Radio Station**

To All Concerned Navy Personnel:

As a lifelong resident of Imperial Beach, I am in favor of the option to create a "campus" at the existing Radio Station; however, I have grave concerns about the Navy's influence regarding the future opportunities for the people of the IB Area (Imperial Beach, Nestor, and Palm City).

Over the last three decades we have promoted the social and economic opportunities that exist in the IB Area. We have also proposed solutions to ongoing problems in the IB Area such as economic disparity, commercial and suburban blight, pollution affecting the TJ River Valley, and deprived educational opportunities. Summations of these efforts are contained in the enclosed book entitled "Downtown IB – and other Fundamental Needs of the IB Area", now available at amazon.com.

There are three (3) specific areas that I would like to comment regarding the proposed campus.

Educational Institute with Iconic Structure

The Navy could have a more positive influence on the IB Area by adopting locally homegrown concepts that contain direct and subtle social and cultural identities and benefits. For examples and background information see pages 93 to 107 of attached book, and www.pchdinnershow.com for color renderings of design concepts. 37-1

Entertainment Venue to Address Economic Disparity

The IB Area has long been deprived of economic prosperity compared to other areas of San Diego County. For example, current data show the direct annual revenue in San Diego is about $8 billion, and the indirect revenue is another $8 billion. What percentage of this revenue is spent in the IB Area? The data would show a great disparity compared to neighboring communities. Please see pages 61 to 92 of the attached book for a description of the Pacific Coast Historical (PCH) Dinner Show. The Navy's "story" regarding its influence and history in the San Diego Area is included in the script of this show. The IB Area has been part of this story too; therefore, the Navy should support this effort. 37-2

Pond 20 Must NOT be Used for Land Mitigation Banking

Our proposal for the PCH Dinner Show was 1 of 7 proposals submitted in response to the Port District's August 2012 solicitation for Letters of Interest for options regarding the use of Pond 20. Five of the seven were "Land Mitigation" proposals. Already, without any vote or referendum from the local population, nearly 90% of the original 836 acre Western Salt property has been used for land mitigation to offset economic development to the North. The last remaining 95 acre parcel, Pond 20, was originally "set aside for economic development" by the Port District. It would be a travesty of justice for the historically deprived IB Area to be denied the opportunity for economic development of Pond 20. We are asking the Navy to support economic development of Pond 20. 37-3

Sincerely,

Roger Benham, P.E.
619-424-6226
roger@downtownIB.com

c.c.: Port Commissioners, & IB, Coronado, Chula Vista, National City, San Diego, Mayors and Councils

NAVAL BASE CORONADO DRAFT ENVIRONMENTAL IMPACT STATEMENT MEETING

Location: Marina Vista Community Center 1075 8th Street, Imperial Beach, California, 91932

Date and Time: August 13, 2014 5:00 p.m. - 8:00 p.m.

Public Comments:

Name: Bob Hicks #38

Phone: (619)572-8499

Address: 1931 Leon Avenue, San Diego, CA 92154

My question is, I'm for the development if the beach would remain a shared access. I understand that technically they could enforce not allowing people to walk up the coast and walk their dogs up the coast, but we're hoping, as locals, we can remain supporting this project to be able to continue having access to the beach. And the locals do understand not to bother the dunes, or environmental species, and we would like to work together and continue doing that. 38-1

Name: Ed Sorrels #39

Phone: (619)575-5147

Address: 526 9th Street, Imperial Beach, CA

Mostly, at these meetings, we hear a lot from people that are concerned about little birds and mud puddles. And I don't have to be one of them. I'm a Korean Veteran and Marine, and I came home. I have a family; children, grandchildren, and great grandchildren. But I attribute them to luck and training. And this nation has an obligation to train every young man, or woman they send to harms way, to the absolute best of their ability. They can do no less. And the Navy, for the last multiples of 10 years -- I've been in Imperial Beach 45 years, and they have been an excellent steward of the wildlife out on the Strand and on the Bayside also. And the importance here is that this will enable them to better train and control everything related to the SEALS that are leaving out of here to go to the awful places in the world where they have to hang out.

And living in Imperial Beach, I can't see why they have a problem with it. They went crazy over a hotel on the beach, and this is a $700,000,000 project, and a lot of it is going to come back to the City. So I am absolutely for this program in any way, shape, or fashion that the Navy wants to do it. That's basically what I have to say. 39-1

Name: Carol #40

My biggest concern is having access past the north jetty to be able to walk every morning, like I have for the last 30 something years. 40-1

Name: James Knox #41

Email: Jksurf@cox.net

Address: 2355 Calla Avenue, Imperial Beach, CA

I'm concerned with the proposed traffic conditions caused by increase use of the south training base. The effect on Palm Avenue West from Rainbow to 2nd Street in Imperial Beach is a particular concern with the proposed increased use of South Bay at Silver Strand Boulevard. The traffic study is comprised of 2424 pages of what should be termed, "educated guesses," about the traffic conditions. The north gate alternative is the only solution. 41-1

Name: Dick Pilgrim #42

Address: 1182 5th Street, Imperial Beach, CA

My comments have to do with parking. This looks like a very large installation, which means, from experience, there will be a lot of one person per car traffic, which means parking lots will take up an enormous amount of space. My strong suggestion is that 42-1

the Navy charge for parking and use that income to promote, and even underwrite vanpools and carpools. My reason is, I spent 15 years working on a University campus where parking is always paid for. We paid for our parking, and it was not cheap. You'd be amazed at how many vanpools and carpools were used because of that. There is short-term passes for vanpools for 10 days out of the month parking. But it alleviated -- it didn't completely alleviate it, but it was one more step to cut down the traffic. There is a very good bus system that works very well for Imperial Beach. 42-1 Cont.

Name: Mike McCoy #43
Phone: (619)423-0495
Address: 132 Citrus Avenue, Imperial Beach, CA 91932

I do a lot of cooperative work with the California Department of Fish and Wildlife, and in times with the Navy. And I'm on the advisory counsel for the Tijuana River National Estuarine Research Reserve. I represent the City of Imperial Beach in the non-profit Southwest Wetlands Interpretive Association.

Our concerns are, primarily, impacts on the environment. And I think one of the things I'm concerned about is bird strikes on migratory birds on the Pacific Flyway, and the buildings and windows, and 43-1

things like that. We do a lot of work with the Chula Vista Bayfront Development, and there has been different types of glass to use over there that have been tried in other areas of the United States. So I encourage the Navy to take bird strikes on windows as a serious problem for migratory birds -- or whether they are wading shorebirds, or songbirds, or neotropical birds, they use that flyway. So that's going to be an issue that I hope is evaluated and looked into. 43-1 Cont.

The other thing is going to be building orientation may be a way to get away from those bird strikes. In other words, the windows should face east and west rather than north and south. It might be better, I don't know, it just depends. 43-2

The predators are going to be a problem with some of the rooks, and blackbirds, and crows, ravens, all that sort of thing, and certain raptors on those high buildings and trees will be good for predators which will be a predator problem. 43-3

And then, mainly some protection of sensitive habitats in and around the whole operation, vernal pools, and other areas that are sensitive to impact. 43-4

Another thing that I'm really worried about for our community is, transportation. You've got around 3,032 extra vehicles. And so I would like to encourage 43-5

some kind of consideration for a serious people moving system rather than single auto traffic, so a mass transit type of opportunity. So that means if you had a parking facility offsite at North Island, then you could bring the majority of that workforce on the mass transit of some type because you're going to have parking problems. So please take that into serious consideration. 43-5 Cont.

The air quality will become an issue. The road problems are going to be more of an issue. And I have encouraged our city to cut the width of the 75, not widen it, so it discourages traffic. We did that on the west end of Palm Avenue, and it worked well. People slowed down, and they've come to like it. So I say shrink highway 75 rather than widen it, and begin to move toward some type of mass transportation rather than single car transportation. With the cost of fuel, the downside of fuel, the maintenance on cars to the individual, and then the public has to absorb the cost of environmental deterioration and more cars. So any way, to get away from that would be something I would like to see come to the top of the list. 43-6 43-7

The other thing, and I -- it does pertain to this site, and it does pertain to the field and interconnection. We have understand the last part of 43-8

the California Coastal Trail from Oregon to Mexico and Southern California is a difficult area to get through. The Navy has a site that would be perfect to do this on the east side of the fence on this property at Silver Strand. If that could be made available for part of the Coastal Trail to connect to Imperial Beach from Silver Stand State Park to Imperial Beach on the east side of that mesa, the outside of the fence, that would help a lot. And then we can connect it to go down to the National Reserve in Tijuana and then across the base on the very south end of the NAS, Naval Air Station Field, on the very south end of that and just north of the Tijuana river, so you have a fenced in area, but you go right across the base and tie into the trails of the Tijuana riverbed, and then to the most south of the United States at the Border Field State Park. So you come down from Coronado, go across the Silver Strand part of the operation, then down to Imperial Beach, then down to Tijuana Reserve to the south end of that and across the south end of NAS outlying field back to the Tijuana river and across the river on the existing trails to the Border Field State Park. There's a lot of restrictions on that.

43-8 Cont.

One other thing I'm going to mention -- and I don't think you have control over it in this -- but it's

43-9

the flights that are made by the Navy, across our city, with these jets. The decibel level is intolerable. It's unfair to the community. And I think something should be done about the flight patterns, or the -- I don't know what you call it -- the attitude of the pilots. When they overfly these areas, it seems they ought to back off rather than rev up. But I think these overflights -- either the flight pattern should be changed, or the attitude of the pilots should be dealt with so that the public doesn't have to put up with it. I'd like to see that. The community does not appreciate that decibel level going near homes. 43-9 Cont.

So I don't know if there's anything else. I appreciate the opportunity to work with the Navy and things that we do to improve the environment, and I appreciate what they've done.

And also, I want to make sure we continue to work with the Navy to keep dogs on leash on the beach. That should -- it's very difficult for you guys to maintain and protect those nests if people don't comply with beach rules. So fish and game -- I know you're working with Fish and Wildlife to do that, so that's appreciated too. So I think that's pretty much it. 43-10

So the water line -- There's a radio receiving station that they're going to take out -- they call it 43-11

the elephant cage -- and there's a projected waterline that goes down the east side of that, and it goes through the vernal pools, and it's got a 40-foot easement on it. So when you're putting in the waterline doing maintenance, it could have an impact on vernal pools, and we don't need that. I don't know how to resituate that. 43-11 Cont.

The building design and painting should blend in with the environment, and lighting should be shielded down so it doesn't create a problem with the ambient environment that would make it very difficult for the birds to migrate. 43-12

Name: Gwendolyn Kesler #44

My concern is that, whatever this project will build, does not affect Camp Surf being there. I want Camp Surf to stay. It is one of the best kept secrets in South Bay. Every kid from Imperial Beach should go there. It's an awesome resource, and I don't want that to be affected by this project. 44-1

NAVAL BASE CORONADO DRAFT ENVIRONMENTAL IMPACT STATEMENT MEETING COMMENTS

August 14, 2014

Taken at 640 Orange Avenue, Coronado, California 92118 by A. Desiree Tipper, CSR No. 13806.

CORONADO, CALIFORNIA; AUGUST 14, 2014 #45

MS. BESIKOF: I'm Doris Besikof. I live in Coronado at 43 Spinnaker Way in Coronado. I've lived there for about 17 years.

And I have reviewed the displays and spoken to some of the people here, and I am aware that you want, most of all, to modernize, but you do not have funding yet.

You have an environmental study that say there will be no impact. In the case we have boat docks and marches around our neighborhood and if we have so much as a field plate and field grass under one dock, we are accountable to the Coastal Commission, and cannot interfere with it. It does not seem credible to me that you can do a study and claim that there is zero environmental impact in this. 45-1

Also, I've heard today, you might want to do live fire. I think it's totally unhealthy. In the June meeting -- I believe it was 2012 -- I came and at that time, I spoke with someone in command who did acknowledge to me that I was right. The flyers over our neighborhood were occurring even though they were not expected to happen, and they were not allowed. His words were -- I think, was "drifted." 45-2 45-3

This afternoon I was trying to compose my thoughts and write you a letter, and I had the computer on. The plane went over. I lost my e-mail. We are already impacted by the Navy. If you do this proposed expansion, I believe it will profoundly affect our whole lives and our whole neighborhood. 45-3 Cont.

I will also tell you that I'm a retired lawyer, and I'm aware of the formation of the military, our history, and the constitution. I know that our framers did not want a powerful military. They feared it.

I'm not saying that the Navy is too radical in this regard, but they actually said in Jefferson's time, they did not want any kind of tyrannical forces against the citizenry.

President Eisenhower, from the day he took office until the day he left office, cautioned people about imbalance between the military and civilian groups in our country. This just seems so overwhelming that the balance would be lost if you do this. And they would have nothing to say about it. 45-4

I was at a gathering, where a fairly high-ranking individual told me my concerns were -- he said, and I quote, "The price of freedom." I believe if you raise the price this high, then you are taking away freedoms that we are entitled to enjoy as citizens of our 45-5

country.

45-5 Cont.

I do not oppose the military. I support it. I believe it serves an important function in this world. But I think this is too much, and I think it's overbearing. And it's probably a case of getting the most you can on your watches while there are favorable ears to hear you in the Senate and the House on services committees. And I just hope that the voice of the citizens counts as much.

Thank you very much.

Comment #21:

#46

Posted on Aug 02, 2014 at 08:46 PDT

I think this is a good plan to use the existing area for expanding the training of special forces. Improvements to the present facility could allow for access to the training facility directly from the strand / highway 75 from Coronado reducing traffic through Imperial Beach for access as presently required.

Traffic exiting the facility would have to use the existing route unless some way of exiting back to the south bound highway 75 could be merged. Existing road improvements with the a stop light at Rainbow and Palm ave to aid turning traffic would be needed since traffic in that area of town is at the maximum capacity for present conditions, plus side streets from 3rd to Rainbow are used by school traffic.
Traffic exiting the facility is the biggest area of concern, work / training hours could be staggered to allow for smother flow exiting and merging into after noon work hour traffic

46-1

Posted by:
David Moore
Dndmoore@sbcglobal.net
619-424-9774

Comment #22:

#47

Posted on Aug 05, 2014 at 13:36 PDT

When and where are these meeting to take place?

47-1

I am on the Coronado Transportation Commission and would like to attend.

Cauleen Glass

Posted by:
cauleen c. glass
cauleen@gmail.com
6196514203

Comment #23:

#48

Posted on Aug 05, 2014 at 20:17 PDT

If these new facilities NEED to be located on prime oceanfront land, then so be it. Otherwise they should go elsewhere.

48-1

I grew up near Sand Point Naval Air Station in Seattle, and I have to say the best thing that ever happened in that area was when the Navy left and all the waterfront land was made beautiful again and opened up to the public.

Today Sand Point is known as Magnuson Park, with trails and sports fields, forests and wetlands, boat launches and swimming areas, even a dog beach. It is a priceless community treasure.

48-2

If these new facilities do not require a beautiful oceanfront location then they should not be built on the ocean; to do so is a colossal waste of prime public land. Instead that area should be developed to the full extent of its recreational and scenic potential, and opened up for the benefit of all.

Posted by:
Anonymous

Comment #24:

#49

Posted on Aug 11, 2014 at 19:25 PDT

I will submit a copy of my comments with graphics to Teresa Bresler via Certified Letter since I cannot personally attend the meetings.
Ed Kravitz

49-1

As a long time resident of Imperial Beach and an advocate for preserving and improving rail infrastructure that survived the last century or so; I started a movement for historic registry of the Coronado Belt Line when it looked as though local political figures and the developers were planning it's demise, while ignoring the historic significance as well as the potential future need to restore the rail line.

Dr. Joe Schwieterman of the Transportation Studies Department at DePaul University has a two volume book set called; "When the Railroad Leaves Town". The second volume of western railroads has a chapter devoted to the Coronado Belt Line that is brief however, Schweiterman's book points out the demise of American Railroads and the the cost of recovering and restoring a right-of-way after it has been lost.

Without going into too many historic details, the rail line was originally built by San Diego historical figures Babcock and Story who also built the Hotel Del Coronado.

They sold the rail line and the hotel to John D. Spreckels who later consolidated most of the rail lines in San Diego and built the desert line with secret help from Harriman from Southern Pacific.
Spreckles heirs sold to Southern Pacific and they tried abandonment in the 1980s after a hurricane. Eventually the railroad was purchased by the State of California and put under the Metropolitan Transit Development Board; now called MTS. The heart of the rail system is now used by the trolley during all but late night hours. Common Carrier Freight movement is a requirement of the light rail vehicle variance granted by the FRA. If the transit agency were to interfere with the movement of common carrier freight, they could loose their variance to run the San Diego Trolley's which don't meet Federal Rail Safety Specifications in use around full sized rail equipment.
The rail line once circumvented the bay from where it once merged with the trolley main line in National City through the south bay and back up Silver Strand. Multiple Naval Facilities are either next to the right-of-way or in close proximity. The Navy's development at North Island and Coronado required an operational rail line to move big packages. It was not until after the construction of the Coronado Bridge that the line was officially abandoned from 7th Street in Imperial Beach at the Bayfront all the way up Silver Strand.

From 7th Street in Imperial Beach back to National City is contiguous right-of-way in spite of several agencies attempts to sever the right-of-way over the last 15 years. Much of it still has usable rail but needs major tie replacement and several wooden trestles need new piles or concrete replacements. Several Grade Crossings have been disabled by Chula Vista and National City however there are M.O.U.'s on file with MTS/SDAE that would require those municipalities to repair those grade crossings and re-signal them if the rail line was needed for future use. I am on record at SDAE asking that they be required to put money in Escrow for restoration of grade crossings and signals in case their only objections later is the cost of doing so. Many of those signals were removed without the permission of the railroad in the late 1990's by the City of Chula Vista.
National City also paved over crossings without prior notice but later executed MOU's to restore them if needed at the City's cost. The Port of San Diego , Chula Vista and National City have been very confident that it would never be needed for future use; up until now. With an expanding military footprint for training and operations, rail infrastructure and mitigation of traffic become all the more important.

Currently the Bayshore Bike Trail covers much of the right-of-way. Portions of the right-of-way from 7th Street back to National City are under license with MTS and there is a 30 day exit clause in the event the railroad is needed for emergency use. Much of the

rail in Chula Vista and National City was heavier gauge than the original trackage at least as far south as the Salt Works/ Main Street. Most of those portions of the right-of-way are 50 feet wide and can easily accommodate a bike trail on either side of the rail. Many of the remnants from the power plant siding and trolley track replacement could provide major savings if a rail line were to be put back in service on short notice.

After a couple op-ed pieces in the local newspapers back in 1999, my new partners and I embarked on additional research to find out if the 1996 SANDAG Tourist Train Study had any Flaws. The first glaring flaw that we saw was that the rail line came from National City and turned around at the City Yard in Imperial Beach. There would be no benefit to Imperial Beach if the money gets on in National City and gets off in National City. Many facts were misrepresented in the 1996 SANDAG Tourist Railroad Study in all appearances to make it seem unfeasible to restore it as a railroad and it would be better purposed as a bike trail.
In our 1999 "Imperial Express Study" we were looking for a way to extend the rail line to within walking distance of the Beach in the vicinity of Carnation and Seacoast. If the beach were a destination bringing visitors on foot without cars, parking and traffic, it could save Imperial Beach's economy! These same routes that we researched happen to go right up to the South Gate at Ft. Emory! What a coincidence that my proposed light rail and tourist rail proposal from 1999 might provide major traffic mitigation for proposed base expansion. Anyplace along the Coronado Beltline right-of-way or connecting trolley system would instantly become a "Park & Ride" for Navy and support personnel to leave their cars and motorcycles at home or a satellite parking facility and take light rail instead.

After extensive meetings with the USFWS and other agencies we found out that many of the Navy's previous objections regarding EMF's from the 1996 SANDAG Study were not as critical with newer communications systems now in use. The transmitter facility at Ft. Emory is not as active as it may have once been and EMF's that might be produced by light rail vehicles or tourist trolleys or trains might not be as objectionable as in the original study which concluded that getting an easement to cross the Navy Base was just plain impossible.

Our number one choice of routes to the beach was to follow a common survey line that is visible on all of the maps that runs from approximately 7th and the Bayfront in Imperial Beach in a Southwesterly direction that lines up with Carnation Street and Seacoast Drive. Because half is in Coronado and Half in Imperial Beach it was the most logical route however, USFWS told us we would "NEVER" be able to cross the pond that sits just north of Bernardo Shores and alongside SR-75 as it curves to the north towards Coronado.
15 years later much of the water has been drained and denser development is planned at Bernardo Shores and the Bayfront. I believe it would be possible to run the railroad in this original proposed route to Ft. Emory and the Beach but would require mitigation to USFWS. What form of mitigation that might require would be up to the agencies

involved to resolve. I just wanted to make the point that it could be done and if it were an issue of National Security ; not just railroads or municipalities can invoke eminent domain.

The second route was a compromise based on a quote from USFWS. He said; "As long as you stay in the existing right-of-way and it's normal maintenance and renewal, it's out of our jurisdiction." The railroad is grandfathered; at least where it's footprint remains. Also there are many laws on the books for the purpose of recovering abandoned rights-of-way. It's also very helpful if you happen to be the United States Navy and you own the right-of-way! From my research the rest of the right-of-way up Silver Strand is on Navy Property. Getting an easement should be quite simple if the Navy wanted to connect the Amphibious Base some 35,000 feet south to Ft. Emory. In fact I have a contractor that has given me a quote to build the approximate 7 miles of track from the Amphibious Base to Ft. Emory. In fact; he has bid it with used or "relay" materials as well as new higher spec rail and ties.
So my dream was once to run the best all year/ all weather tourist railroad or light rail line to the beach from downtown San Diego and save Imperial Beach's economy and parking and traffic woes. Little did I realize how strong the political opposition would be? Little did I know it was a E-ticket to go for an adventure in the tourist and freight railroad industries. I got to go places most railfans only dream about.

Without moralizing too much it does seem that many of the powerful and influential in San Diego are more interested in real estate development and tourism than National Defense. To many of these pro-development political types, San Diego Bay is nothing more than a reflecting pond for their pretty sparkling hotels and convention centers. The fact that San Diego is a deep water Pacific Rim Port in a World Economy escapes them. Perhaps the reality of it also becoming the biggest United States Naval facility on the west coast should give someone a clue what that bay is really for and the logistics of supporting 7 Bases in the region. With the Coronado Bridge nearing the end of it's life span and limitations on what types of materials can be moved over it, the future of the Coronado Belt Line and SR-75 should be of special importance to the Navy.

I recently watched a hearing on C-SPAN where testimony was given about the lack of rail infrastructure available to the Navy in San Diego. Can the Chinese park an intermodal train next to an aircraft carrier?

There are obviously more ways to accomplish this than just one. As I mentioned having bids for two different types of construction of light rail connecting Ft. Emory to the Amphibious Main Base in Coronado. The Midwestern contractor would love nothing more than to bring his crews out to San Diego after Halloween and be able to work here restoring the line until spring than trudging through the snow and ice of winter back east.

Another method that might be suitable connecting bases by rail would be to elevate the track. Considering the potential for Tsunami or rogue wave wiping out infrastructure on the Silver Strand, elevated track on either concrete piers and pre-formed bridge sections or even a levee along the west side of SR-75 would provide separation and additional privacy for training exercises on the beach from highway views. While we found out that USFWS has objections to an overhead catenary like the San Diego Trolley uses because of it being a "Predator Perch", there are several ways to overcome that. RDC's also called Rail Diesel Cars could be used. These self-propelled coaches can be hooked in tandem and even pull non-powered coaches for additional capacity. There are many currently on the market and priced quite reasonable. Some shop work may be required but, we have a qualified railshop that has refurbished these same type units for CN and CSX.
The merger with the Trolley Line in National City could be accomplished multiple ways. If self propelled RDC's with compatible couplers and safety/control systems that would work with the Siemens Trolleys could be acquired; the Siemens Trolleys could be acquired;

The Beltline Trolleys could go all the way downtown to the Mills Building Transit Center and transfer with other trolleys. If not; a transfer station where you step off the MTS trolley in National City and board the Beltline RDC south to Chula Vista, 13th Street for OLF, Ft. Emory/Camp Surf and the Amphibious Base. Perhaps what is called a wye track could be useful at Ft. Emory for turn- around's .

When we first proposed our extension of the rail line to the beach in 1999 they were just starting to build out Eastlake. Now all those people call Imperial Beach their beach. New denser developments are going up at Marion Catholic High and Bernardo Shores. A new Walmart and proposed lane narrowing by the Community Development Department of Imperial Beach in conjunction with SANDAG is not smart, but a danger to public safety. Proposed lane narrowing, traffic calming, new intersections and bike lanes will slow rather than speed up traffic on SR-75/Palm. These are new proposed obstacles that will be placed in a Tsunami Evacuation Route that was demanded by the 2005-2006 Grand Jury. These are also Defense Access Roads that are required to move certain hazardous materials. How can the City Of Imperial Beach or SANDAG even consider constricting lane size or traffic speed with all the new traffic? While additional cars and motorcycles on SR-75, Old Palm Avenue (which was also narrowed from 4 lanes to 2 lanes with a SANDAG Grant recently) will have impacts on both Navy and Civilians alike, SANDAG and the City have not quite figured it out yet. The congestion I tried to warn them about in 1999 is here now and going to get heavier. The Palm Avenue and I-5 Corridors are already at grid lock several hours of the day. What is unique about the rail proposal is that the right-of-way does not go in the Palm Avenue Corridor or I-5 corridor at all and it's speeds will not be affected by existing or

future grid lock. In fact, the route from 7th Street in Imperial Beach going East and curving to the north bi-sects a triangle formed by Palm and I-5. It's actually a much shorter distance by the railroad right-of-way and will reduce travel times and long waits for traffic lights on SR-75. Because there are very few places where roads cross the right-of-way , the need to sound horns and install grade signals would be greatly reduced.
In one scenario we had proposed an overpass at SR-75 and the common survey line mentioned previously. This would provide an easement for both the rail and a bike trail under the traffic lanes of SR-75 and allow trains or light rail to cross under the highway with no required horn or whistle blast. A silent entry into northern Imperial Beach right to the gate at Ft. Emory. When asked about the cost, I recall reading in State Railroad Law that a railroad may cross a State Highway at whatever grade is most expedient for the railroad and it is up to CALTRANS to provide crossing signals, bridges, overpasses or whatever is required to make that crossing safe for motorists.

I believe that my rail proposals should be noticed by the Navy because of various Navy Programs already in existence that might provide funding immediately for such a project.
Readiness Environment Protection Integration (REPI)
Defense Access Roads (DAR)
Transportation Incentive Program (TIP) This project could take hundreds if not thousands of autos and motorcycles off both the I-5 and SR-75.
Training Purposes for Special Warfare Involving Rail
Additional Intermodal Shipping Capacity & Logistical Alternatives

I would like to let you know that the resurrection of this rail line is very dear to my heart and I have spent countless hours and personal resources researching and crusading to save this important piece of San Diego history. Because of my advocacy I found myself involved in the tourist railroad industry where I am still involved to this day. I am also on good terms with the licensed rail freight operators. I would be willing to offer consulting services or brokerage in finding appropriate equipment if the Navy should decide they want a fast start-up. As I mentioned, materials are available and my contractor would love to work in San Diego this winter rebuilding the Beltline. The Sea Bees could probably build it by tomorrow morning if tasked to do it.

I would like to address a component of this proposed rail scenario ; a group that feels threatened by the mere mention of the word "railroad". A powerful lobby of bike enthusiasts feel that the rail line would end their use of the right-of-way. Nothing could be further from the truth and for all practical purposes the right-of-way could accommodate a bike trail on both sides of the rail. The few places where it appears constricted, it's not what it appears at face value and I'll be happy to explain again how and why both can exist together and compliment each other. I have lots of additional information ;both technical and historical and would like to be involved in the formation

or operational license for the railway once known as the Coronado Beltline; in whatever configuration it may end up being someday in the future.
The first rule of Design is to maximize use of all the available resources. This is very salvageable infrastructure at this moment in history. Perhaps recently public officials overlooked it's future value for more immediate gains.

Will the communities around the bay support the restoration or improvements to the line? Certainly Imperial Beach could be a big winner. Why not make it a win-win for everyone including the Navy. Restoration of the rail line and light rail transit would make the Navy traffic almost invisible compared to now. The birds in the refuge don't care about trains or large objects. I have the studies to prove that. Only one little easement is keeping the train from pulling up to the front gate of Ft. Emory.

Thank you for reading my comments. If you should have any further questions or want more information , please feel free to contact me.

Ed Kravitz

San Diego & Midwestern Railway Partners ; LLC

Images Courtesy:
Pacific Southwest Railway Museum Research Library
Thomas Brothers Maps & Imperial Express Study 1999
SANDAG 1996 South Bay Excursion Train Study

J.D. Sprekels

Posted by:
Ed Kravitz
ekatsdrp@yahoo.com
619-890-8894

Comment #25:

Posted on Aug 17, 2014 at 13:09 PDT

#50

Dear Ms. Baker,
I am supportive of the Navy and understand the need to upgrade and enhance facilities in order for it to more effectively and efficiently accomplish its mission. However, as a resident of the Coronado Cays, I am opposed to any further encroachment onto the

50-1

public beach as well as to any closing or restricted uses of the beach or the water. Presently, the public can walk on a wide stretch of beach all the way from the Silver Strand RV Park to the Imperial Beach Pier and beyond. Further, water access and water use is unrestricted in that entire area. It should all stay that way. This strech of beach is a precious resource to be enjoyed by the public.

50-1 Cont.

Also, if the Navy is moving facilities from the amphibious base then, as mitigation, perhaps the Navy could open to the public more of the beach from the Silver Strand RV Park toward the amphibious base so that people can walk further up the beach in that direction as well.

50-2

Finally, the Navy should ensure the aesthetics of the proposed project from both the beach and the Silver Strand. This project should not be an eyesore when viewed from any direction. But, should blend in with the natural scenery and/or be screened from view with appropriate vegetation and other measures. Please do not let this project look like the Kinder Morgan Tank Farm off of I-52 and Convoy, which is tremendous eyesore!

50-3

Thank you for the opportunity to comment.
Sincerely, Grace Lowenberg

Posted by:
Grace Lowenberg
gclowenberg@gmail.com
619-737-5063

Comment #26:

#36

Posted on Aug 21, 2014 at 12:38 PDT

I have been a resident in Imperial Beach for nineteen years. I live within two house of the proposed project and we as residents have many concerns. First would be the noise and the traffic as a consequence of such a proposed expansion. Traffic as it is, is already three fold from when we first moved here. Also, the noise from the helicopters is over the top. This morning, 8/21/14, at 1:00 am - 1:45am the neighborhood close to the proposed base was harassed by touch and goes at the proposed site. The helicopter was so low that is shook the windows and the house. If this is the sign of things to come, we as residents WILL rally against this proposal. It is obvious that the nave and those in charge of this site have no regard for the residents here.
There is also a question about the Lease Turns that nest here as well as the shrimp that are only indigenous to that site. I'm fully against the proposal and will do whatever I can to educate the residents about said plan. The mayor thinks that the "traffic" will bring revenue to the community of IB, but at what expense?
I know that this a dog and pony show and the government will do as it pleases. If you

are for such a proposal at the expense of the residents in Imperial Beach, then put it in your neighbor hood!

Posted by:
Steven Robert Merrill
sjcmerrill@gmail.com
429 - 8228

Comment #27:

Posted on Sep 01, 2014 at 19:28 PDT

#51

September 1, 2014
I have been a resident of Imperial Beach for 63 years. I moved to the then unincorporated Imperial Beach area at the age of three. I grew up at 501 Spruce Street, attended local schools and have resided at 235 Calla Avenue for the past 35 years.
I am concerned with the increased traffic conditions to be imposed on the northwest area of Imperial Beach both during the construction and increased use of the South Training Base.
The Traffic Study comprises 2,424 pages of what should be termed "educated guesses" about future traffic conditions during the construction and increased use after the final build out of the South Training Center. There are numerous conclusions in this gigantic study that do not reflect current traffic conditions, both in and out of Imperial Beach, accurately. I do not have the time or the inclination to write a large enough thesis to address them all. I will concern myself only with traffic on Highway 75 from 9th street north to Seacoast Blvd. 51-1
Currently there is only one entry to the Special Forces SEAL Headquarters and training area located on the Southwest side of Highway 75 within the Naval Amphibious Base. Traffic currently backs up on North Highway 75 in the mornings past the obstacle course and sometimes further while trying to make the left turn into the base. The turn is controlled by a stoplight with a left turn signal and lane.
As the South Training Center is phased into use, traffic will have to turn left at the new North Entrance from Highway 75. The same back up with continue to exist, it will only be moved to a new location. To try to prevent being caught in this backup traffic will soon learn to use Palm Avenue as an alternative because of the access provide by the Silver Strand Blvd. gate. Your report suggests that increased usage of the base as construction allows training to increase will not impact the traffic at the current South Gate (Executive Summary, Pg. ES-15, Lines 13 through 33) 51-2
Your mitigation suggestions for increased traffic on Palm Avenue, west of 9th street only includes "restriping" on Rainbow Dr. at the Palm Avenue intersection. No mention is made of the left turn signal on Highway 75 between 9th street and 7th street. Currently traffic at this signal controlled left turn back up past the two lanes provided for cars to turn. Currently Palm Avenue from 7th street West has one through lane in each 51-3

51-3 Cont.

direction. There is a four way stop at Palm and 3rd street, a 3 way stop at 2nd street, and a 3 way stop at Palm and Seacoast Dr. with a duel left turn through lane plus a dedicated right turn lane. Traffic wishing to use the current South Gate must turn right (if going west), or left (if going east) from Palm Avenue to Silver Strand Blvd. Any traffic leaving the base currently must stop at the intersection of Silver Strand Blvd. and Palm and then negotiate a left or right turn onto Palm.

Your report suggests a new light at both 3rd and Palm, and Silver Strand Blvd. and Palm will be needed. Currently traffic backs up on Palm Avenue both east and west at 3rd street during morning and evening traffic. (No mention is made of the traffic that must use this intersection to get to West View School which is located at the northern end of 3rd street) Traffic also backs up at the Silver Strand Blvd. and Palm intersection after current training evolutions end. The times for these backups vary with the training schedule. Currently some cars exiting the South Training Base try to avoid this backup by turning right on Carnation, Calla or Citrus Avenues. They proceed west to Seacoast, turn south on Seacoast, and then east on Palm.

51-4

As training and traffic ramp up, use of the South Gate will increase traffic on Palm Avenue from the left turn signal west of 9th street to the Silver Strand Blvd. south gate. Silver Strand Blvd. is a short, residential street, not designed to absorb the increase in traffic that will occur as training increases. Currently in the mornings traffic backs up on Silver Strand Blvd. to Carnation Avenue and sometimes more. Increased use of the base as construction is completed will only increase traffic at the current South Gate. The mitigation measures suggested for 3rd and Palm, Silver Strand Blvd. and Palm, and Silver Strand Blvd. are not practical and will increase traffic congestion on Palm Avenue between 7th street and Seacoast Blvd. A stop light at 3rd street and Palm a stop light at Silver Strand Blvd. and Palm will increase traffic congestion. The suggestion that Silver Strand Blvd. can be widened is ludicrous. How could this be accomplished on a street that is currently one lane in each direction and residential? Nowhere in the report is there a mention of how to prevent increased use of the South Gate and Silver Strand Blvd. except the suggestion that the new North Gate will prevent any increased use.

51-5

The report also makes no mention of the increased tourist traffic coming to Imperial Beach because of the new hotel and the possibility of another beach front hotel being built. There is no mention of the possible traffic and economic impacts that will come with the development of the south side of Palm between 9th and 7th streets. There is also no mention of who will pay for increased costs of implementing and maintaining any traffic mitigation and increased waste water requirements. The reports conclusions that there will be little or no impact on Imperial Beach by the new training base are wrong and should be re-examined.

51-6

The only practical way to prevent new, unacceptable traffic congestion on Palm avenue from 7th street west is to build the new north entrance as outlined in the report and permanently close the current south gate entrance from Silver Strand Blvd during and after construction to prevent significant impacts on residents of Imperial Beach.

51-7

Thanks you for your consideration

James M. Knox

235 Calla Avenue
Imperial Beach, California 91932
(619)423-8152
jksurf@cox.net

Posted by:
James M. Knox
jksurf@cox.net
(619)423-815

Comment #28:

#52

Posted on Sep 05, 2014 at 17:12 PDT

I'm a homeowner in IB and am retired navy.

-

Alternative 1 makes the most sense. By a mile. This would be a major win/win/win/win for the SEALs, the Fleet, the country, and I.B. 52-1

-

With its availability, proximity, size, wilderness, and waterfront the old comms compound amounts to a one-of-a-kind opportunity for the Navy...an ideal fit right down the road from NSWC. For IB...having the world's premier naval specwar facility right here with us...how great/cool would that be?

-

Relative to putting ships, jets, armor and/or other conventional force infrastructure here, the environmental impact of what the SEALS are proposing would be minimal. And the proposed new main entrance being north of town on 75 should mean that the new facility would not result in "rush hour" traffic flows through the IB neighborhoods. 52-2

-

I'm a diehard fan of I.B and am a lifelong San Diego Countian. I love our history. But some bomb shelters that never saw action located on a limited access military facility do not, in my view, come close to reaching the must-preserve crossbar, particularly if preserving them were to mean complicating a much needed enhancement for Navy special warfare at this point in time. 52-3

-

If we're going to do this -- and with the world headed in the direction that it currently is, we certainly need to -- let's do it and do it right...Alt 1. 52-4

-

I greatly appreciate the efforts of City of Imperial Beach and the Navy to make this initiative public.

Posted by:
Peter Smith
psmithmail@aol.com

619-869-4178

Posted by:
Samantha Walter
sailorsam87@live.com
440-213-6877

Comment #14:

Posted on Sep 18, 2014 at 16:37 PDT

#53

September 17, 2014

Naval Base Coronado Coastal Campus EIS
Teresa Bresler
Naval Facilities Engineering Command Southwest
2730 McKean St., Bldg. 291
San Diego, CA 92136-5198

Re: Naval Base Coronado (NBC) Coastal Campus Draft Environmental Impact Statement (DEIS)

Dear Mrs. Bresler:

The Port of San Diego (Port) would like to thank you for the opportunity to comment on the Draft Environmental Impact Statement (DEIS) for the Naval Base Coronado (NBC) Coastal Campus (Project). The Port's Environmental and Land Use Management Department reviewed the NBC Coastal Campus fact sheet, the executive summary and portions of the Project's DEIS. The Port understands that the U.S. Navy (Navy) is preparing a DEIS to evaluate the potential environmental impacts associated with the construction, maintenance and ongoing operations of a new academic campus, that would involve approximately 1.5 million square feet of facilities including a mix of instructional and administrative facilities.

Port staff has the following comments regarding the Project and associated DEIS: 53-1

- *The Port recently completed the twelve-acre Emory Cove restoration project, which is located adjacent to the Silver Strand Complex Training Complex South, along its northeastern boundary. To help ensure that the recently restored Emory Cove area is not adversely impacted by the proposed NBC Coastal Campus Project, the Port requests that Figure 2-2 SSTC-South Existing Development Considerations Map classify the Emory Cove site as an Environmentally Sensitive Area (ESA). For easy reference, attached is a figure that shows the boundaries of the Emory Cove restoration project superimposed on EIR Figure 2-2.*

- *According to Table ES-3 Summary of Effects, the proposed Project and all of its alternatives would not result in impacts to the California least tern, and there would be a loss of 0.15 acres of critical habitat for the Western Snowy Plover (WSP). The DEIS states that biological impacts would be mitigated by continued monitoring of the number of species, quality of habitat and potential behavior changes. In addition, the DEIS identifies several mitigation measures which are specific to the WSP and its habitat (B-25 to B-31). Provided that impacts are limited to 0.15 acres of WSP critical habitat, and that all mitigation measures identified in the DEIS are implemented, the Port does not have any issues with the proposed Project or its alternatives.*

53-2

The Port appreciates continued notification regarding the progress of the Project and DEIS. Please contact Eileen Maher at (619) 686-6254 with any questions.

Sincerely,

Jason H. Giffen
Director
Environmental and Land Use Management

Posted by:
Eileen Maher
emaher@portofsandiego.org
619-686-6254

Comment #15:

#54

Posted on Sep 19, 2014 at 20:02 PDT

We live in the Coronado Cays. I am greatly concerned about the impact that the base expansion will have on our quality of life. Noise pollution is only one of the concerns, others have been expressed as well. I am most concerned about additional helicopter flights and combat simulations. Both are already a real noise concern. I am a supporter of our military. Most folks in Coronado are. But this simply too much.

54-1

Posted by:
Donald Phin
don@donphin.com
619-852-4580

Comment #16:

#55

Posted on Sep 21, 2014 at 09:23 PDT

While I support the mission of the United States navy, I am very concerned that the proposed Naval Base Coastal Camps will have seriously adverse effects on the Coronado Cays and the Shores as well as the Village of Coroado.

I am against helicopter activity at the proposed new Coastal Camps. There is a great difference in the 2 to 3 seconds of increased sound it takes for a F-18 or similar aircraft to pass over the Coronado Cays than the several minutes of noise a helicopter, or two flying together as they frequently do, creates as it passes. There have been several instances of low flying helicopters flying south to north over the bay that have been very disturbing. The noise reverberates down the Channels and rattles windows for 2 to 4 minutes. Repeated passes are very disturbing. There is also increased dirt pollution from exhaust. 55-1

The increased traffic during construction as well as when full capacity use will be reached is also of great concern. Traffic South to North on SR75, as well travel South to Imperial Beach to reach the 5 Freeway on-ramps will be greatly increased and rush hour morning traffic will be slowed to a crawl. North bound traffic along SR-75 from Coronado Cays and Imperial Beach to the Villiage is 'stop and go' now and will only get worse. Pollution will be increased greatly from idling automobiles and motorcycles traveling along SR-75 as well as lining up to enter and leave the proposed new Coronado Campus. Please consider an off-site or remote access Campus Entry Gate. Please consider using manditory Van Pools and bussing personnel to the Campus from an off-site parking facility. 55-2

The Emergency Evacuation Route from the Coronado Cays, Lowes Hotel, the Silver Strand Elementary School, the State Park, and military housing along the Silver Strand will be seriously impacted. Our route to higher ground, and getting away from earthquake damage and danger will be slower and longer and would make a dangerous situation worse. Again off-site parking of Campus personnel would help mitigate this dangerous emergency situation. 55-3

The noise from activity, weapons and ordinance used in simulated battle training is especially jarring and disruptive to daily life in the Coronado Cays. The noise from this training needs to be kept to a minimum, or eliminated all together by moving these activities to other larger coastal Navy locations farther North. 55-4

I urge the Navy to considerably downsize the proposed NBC Coastal Campus or relocate it completely. 55-5

Respectfully,
Carolyn F. Rogerson

Posted by:
Carolyn F. Rogerson
rogersoncf@hotmail.com
619-423-3423

Comment #17:

#56

Posted on Sep 21, 2014 at 15:28 PDT

We have carefully reviewed the Draft EIS for the Coastal Campus along with the responses from the City of Coronado and the Coronado Cays Homeowners Assoc. As a resident of the Coronado Cays, this installation will have a major impact on our quality of life. Noise, visual aspects and traffic will all be negatively affected. Consider that those of living in the Cays have only two ways in or out of our community, north on the Strand to the village, or south within your campus area. We urge you to please carefully consider the response from the City (4 Sept City manager) and alleviate those concerns as best you can. Thank you

56-1

Posted by:
Mr & Mrs. Paul E. Grubb
grubbnp@san.rr.com
619-575-8750

Comment #18:

#57

Posted on Sep 21, 2014 at 15:40 PDT

Hi,
we are very supportive of the military mission here in Imperial Beach, and are supportive of the proposed project. However we also are mindful of retaining the existing character of IB as much as possible as it benefits both us and the military. We are supportive of the "North Only" alternatives, as any significantly additional traffic at the existing Silver Strand Boulevard entrance would be a drastic impact to the community. We would therefor opposed to significant additional traffic here, especially when there are viable avoidance alternatives available.

57-1

Slight increases of traffic along this street might be mitigated favorably by making Citrus Avenue a one-way street (heading west), and relieving some of the cross traffic on Silver Strand Boulevard.

57-2

We would also be opposed to additional closed/limited access of the beach along the southern Silver Strand, but it seems based on studying the DEIS that this will not be an issue.

57-3

Also you might consider taking ALL of the old circular antennae down rather than saving a portion for posterity, but this in my mind in not a very significant issue. It will be beneficial to remove this archaic and utilitarian structure as it mostly just constitutes an eye sore these days.

57-4

We wish you all the best with this exciting project and thank you for taking the time to consider our public imput.

Posted by:
Steven Threlkeld
s-threlkeld@cox.net
619-463-4245

Comment #19:

#58

Posted on Sep 21, 2014 at 17:03 PDT

I am writing to make comment on the EIS for the proposed Coastal Campus. I concur and support the spirt and detailed observations and questions put forth in the City of Coronado's official comment letter. I also support the letter put forth by the Coronado Cays Homeowners Association (CCHOA). 58-1

We have many reservations about this project, due to the inadequate analysis of the "accumulative" environmental impacts and the choice to disturb pristine coastal and historical property along a state designated Scenic Highway and a federal National Wildlife Preserve. We think no project should proceed on this property at this time, without comprehensive review and responses to the many questions posed. 58-2

Harry and Elizabeth Butler

Posted by:
Eizabeth Butler
lizabutler@aol.com
619-405-1500

Comment #20:

#59

Posted on Sep 22, 2014 at 14:03 PDT

Dear Ms. Bresler:

The Department of the Interior has received and reviewed the Draft Environmental Impact Statement for the Proposed Naval Base Coronado Coastal Campus, CA, and has no comments to offer.

Thank you for the opportunity to review this project.

Sincerely,

Patricia Sanderson Port

Regional Environmental Officer

Posted by:
Patricia Sanderson Port
patricia_port@ios.doi.gov
415-296-3355

Comment #21:

#60

Posted on Sep 22, 2014 at 14:58 PDT

State of California • Natural Resources Agency Edmund G. Brown Jr., Governor
DEPARTMENT OF PARKS AND RECREATION Lisa Mangat, Acting Director

San Diego Coast District
4477 Pacific Highway
San Diego, CA 92110

September 22, 2014

Teresa Bresler
Naval Facilities Engineering Command Southwest
2730 McKean Street, Building 291
San Diego, CA 92136

RE: Naval Base Coronado Coastal Training Complex Draft EIS, July 2014

Dear Ms. Bresler,

Thank you for the opportunity to comment on the Draft Environmental Impact Statement (DEIS; July 2014) for the proposed Naval Base Coronado Coastal Training Complex project (Project), located north of the City of Imperial Beach, west of State Highway 75 and south of Silver Strand State Beach. California State Parks (CSP) is the land manager of Silver Strand State Beach (SSSB).

CSP appreciates the importance of the Congressional mandates for the growth of Special Forces and associated training facilities. CSP understands from the DEIR and your outreach meeting at our offices (4/15/14) that the complex will involve development of approximately 161.8 acres including 34 acres of structures, a 120 foot tall parachute drying structure, a new access from HWY 75, and approximately 3,500

trainees and support staff using the site per day. We remain concerned about the indirect effects from the dramatic change in use and intensity of the site with respect to management of Silver Strand State Beach and the connectivity and conservation of adjacent natural and cultural resources. 60-1

Natural Resources
CSP is concerned that the Project will cause significant adverse effects to Western Snowy Plover (WSP) and WSP critical habitat. Only 0.23 acres of southern fore dune (WSP habitat) are estimated to be directly impacted by the Project but the increase in the intensity of use of the site (1.5 million square feet of facilities over a 161.8 acre development site and presence of approximately 3,500 people per day) will likely result in significant adverse impact to WSP. 60-2

Predators – The large increase in facilities (including cafeterias, convenience stores, perching opportunities, lighting, site landscaping, etc.) and people to the training complex will increase the amount of food, freshwater and habitat available to animals that thrive around human settlements and prey upon native wildlife including WSP. It is expected that Common Raven, California gull, California ground squirrel, Argentine ant, black rat, and other nuisance species will benefit from the Project development and expand their presence in the vicinity. 60-3

Loss of Buffer – CSP is also concerned about the 485 foot long approach lane and associated widening of south bound HWY 75. The DEIR suggests that the land immediately adjacent to southbound HWY 75 does not support WSP breeding habitat and will not adversely impact WSP if developed. While this area does not support WSP nesting it is important to the SSSB Natural Preserve (Preserve) in that it acts as a buffer to the suitable breeding habitat. As this buffer is reduced in size it will bring adverse urban effects (for example noise, pollutants, impermeable surfaces, invasive plants and animals) closer to breeding sites of WSP and other rare species within the Preserve. Because of its proximity to the highway the buffer area (between the chain link fencing and the highway) is subject to more frequent physical disturbance and an excess of freshwater from precipitation runoff from the impermeable highway surface. These factors support greater densities of productive invasive plant species that will encroach further into the Preserve area reducing potential breeding habitat for WSP and providing cover for mammalian predators. 60-4

Additionally, the 485 foot approach lane, traffic signal and new entrance road will greatly change the flow of traffic along the south eastern edge of the Preserve. The DEIR suggests that the slowing of traffic in this area will decrease the noise generated from the current traffic flow. CSP is concerned that the acceleration and deceleration from the changes may increase the noise and that the greater number and increased duration of vehicles idling while waiting to enter the Complex may increase noise and pollutants within closer proximity to the Preserve. 60-5

Increased Public Use – CSP is concerned that the increase in people utilizing the complex (an estimated 3,500 per day) will increase public beach use at the southern end of Silver Strand State beach, adjacent to the Dune Natural Preserve. With the increase in beach use originating from the complex there will be increased threat to endangered species as visitors are more likely to enter into the Preserve and WSP breeding habitat. 60-6

The DEIR posits that the project will not result in significant adverse effects to Nuttall's lotus (Acmispon prostratus). From the mapping data it appears that the majority of the suitable habitat for Nuttall's lotus will be eliminated by the Project. Nuttall's lotus is a California Native Plant Society (CNPS) 1B.1 ranked species. According to CNPS "All of the plants constituting California Rare Plant Rank 1B meet the definitions of Secs. 2062 and 2067 (California Endangered Species Act) of the California Department of Fish and Game Code, and are eligible for state listing. It is mandatory that they be fully considered during preparation of environmental documents relating to CEQA". While the standards are different for a NEPA analysis, the proposed Project's impacts to Nuttall's
lotus would likely meet the Federal standards for a significant adverse effect and require the appropriate mitigation. 60-7

CSP recommends the following mitigation measures to avoid significant impacts to WSP, WSP Critical Habitat, and sensitive habitats and wildlife.

- *Maintain strict low impact development (LID) designs that reduce water use and capture imported water or allow the water to infiltrate within soils evenly throughout the developed areas.* 60-8
- *Develop and implement an integrated pest management plan that incorporates wildlife proof trash receptacles, perch proof structures, and pest control.* 60-9
- *Provide funding for a predator control contractor that manages predators both on Navy Land and on the southern 1,000 feet of the Silver Strand State Beach Preserve during the WSP breeding season.* 60-10
- *Employ a permanent, full time natural resource site manager to coordinate minimization, avoidance, and mitigation measures and provide monitoring and enforcement support for WSP habitat onsite and adjacent to The SSSB Preserve.* 60-11
- *Through the strategic use of building layout, pedestrian circulation routes and fencing (as well as limiting ocean views of Complex pedestrians, develop a site design for the Complex that restricts the number of beach access points to one location, at the southern (more urban) end of the beach.* 60-12
- *Incorporate Nuttall's lotus into landscaping, restore and enhance populations of Nuttall's lotus in preserved land on the site.* 60-13
- *Conserve the remaining habitat onsite into a natural preserve (or Navy equivalent).* 60-14
- *Communication and coordinate with State Park staff and contractors with quarterly meetings to improve regional WSP management efforts.* 60-15
- *Restore habitat and provide ongoing maintenance within the HWY75/SSSB Buffer* 60-16

Area along length of 485' deceleration lane. 60-16 Cont.

- *Prohibit vehicular activity on the beach in front of the State Park.* 60-17
- *Develop and implement an educational outreach program to train and refresh training about working within close proximity to Sensitive Species and Habitats. Provide all staff with rules regarding protection of the Sensitive lands on Naval and State Park Property. Implement an enforcement program so that the rules are strictly followed.* 60-18

Cultural Resources

CSP supports Alternative 2 with regard to Cultural Resource Impacts. Alternative 2 does not cause adverse effects to historic resources involving demolition of historic bunker (building 99) a contributor to the NRHP-eligible Fort Emory Coastal Defense Historic District. Given the extent of known archaeological resources within the area and the potential to discover unknown cultural resources and the potential discovery of human remains within the APE, in addition to a qualified archaeological monitor, a Native

American monitor should be included in the monitoring and data recovery plan. San Diego Coast District (SDCD) cultural resources staff also request any project related cultural resources reports (including final monitoring report) in order to better understand the project scope and the potential impacts as well as the overall regional understanding of human occupation on the Silver Strand.

60-19

60-20

60-21

In response to the following statement, included in the Naval Base Coronado Coastal Campus EIS, that an "Intensive pedestrian archaeological survey has also been conducted [1982] of Silver Strand [State] Beach immediately adjacent to SSTC-South to the north (Woodward and Stammerjohan 1985)" (2014:3.8-8), it is important to note that cultural resources have been identified since that time and that the record search data obtained as part of the 1982 cultural resources survey was incomplete and therefore the results documented are outdated. It is recommended that an intensive archaeological survey along the beach be conducted prior to potential ground disturbing activities. In addition, if any work is to be conducted on State Park property the CRM should consult with SDCD Archaeologist.

60-22

Please submit cultural resource documents to SDCD Archaeologist Nicole Turner (Nicole.Turner@parks.ca.gov).

60-23

Thank you for allowing us to comment on the DEIR and hope that our comments and recommendations serve to improve the Project. We have greatly enjoyed working with the Navy's natural resource staff and contractors and feel that if properly implemented the Project could help further develop a partnership between the Navy and California State Parks San Diego Coast District. Please feel free to contact the District Services Manager Darren Smith (619) 952-3895 if you have any questions or need for clarification.

Sincerely,

Clay Phillips, San Diego Coast District Superintendent

Posted by:
Clay Phillips
Clay.Phillips@parks.ca.gov
619-688-3260

Comment #22:

#61

Posted on Sep 22, 2014 at 16:50 PDT

I am against more military development along the beautiful Silver Strand area. A project like this will only increase traffic along State Route 75, add to noise levels, increase air and water pollution and destroy nesting areas for migrating bird species. The Navy continues to portion out their EIS 'development projects' one by one, when taken as a whole continues to impact the residence of both Coronado and Imperial Beach negatively. Totally against any of these proposals.

61-1

Posted by:
Christine Hillger
cnflan@cox.net
619-423-4443

Comment #23:

#62

Posted on Sep 22, 2014 at 18:01 PDT

Carrie Anne Downey
Law Offices of Carrie Anne Downey
1313 Ynez Place
Coronado, CA 92118

Naval Base Coronado
Coastal Campus EIS Project manager
Attn: Ms. Teresa Bresler
2730 McKean Street, Building 291
San Diego, CA 92136

Service by: email at www.NBCCoastalCampusEIS.com

September 22, 2014

Subj: NAVAL BASE CORONADO COASTAL CAMPUS EIS

Dear Ms. Bresler:

I am a retired Navy Jag Officer, former Coronado City Councilwoman, and practicing Environmental Attorney. While I appreciate the Navy's need to utilize their existing land to the best possible extent in the Naval Base Coronado ("NBC") Coastal Campus project, I disagree with several fundamental principles in the NBC Coastal Campus Environmental Impact Statement ("EIS"). I agree with and incorporate all of the concerns raised by the cities of Coronado and Imperial Beach in these comments but include several other concerns and mitigation suggestions to assist in mediating the impacts. 62-1

First, the EIS assumes that the project EIS is only required to analyze the additional of new traffic in Coronado resulting from the consolidation of activities in the proposed project. The EIS denies there will be an increase in vehicles entering and exiting Coronado as a result of the project. While the City of Coronado's comments suggest the failure to address traffic impacts is because of an inappropriate analysis of the cumulative impacts of the project with the earlier Naval Base Coronado projects, I also believe there is another fundamental error in the EIS traffic analysis. The National Environmental Policy Act ("NEPA") requires Federal Agencies to analyze the impacts from any new proposed projects. Existing conditions form the basis for the No Project Alternative under NEPA. In essence environmental impact analysis is not required on conditions that are assumed to have already completed environmental review or to predate NEPA enactment. However the changes proposed in Alternatives one and two: consolidating and relocating Naval Special Warfare ("NSW") facilities, operations and personnel at a new location within NBC, require analysis of all traffic that arises as a result of Naval Special Warfare locations with NBC. While it is true that some Naval Special warfare activity existed pre-NEPA at the then Naval Amphibious Base Coronado, the traffic impact from NSW personnel arriving and departing NBC was never analyzed or mitigated since the passage of NEPA. The proposed relocation of operations, regardless of whether it is an increase in personnel, is a new project for purposes of NEPA, and should be fully analyzed as if they were all new. The traffic impacts from all NSW operations has never been broken out of the other military operations at the NBC complex to determine their impacts separate from the Air or other operations. 62-2

Second, whether the consolidation or merely the increase in tempo creates additional traffic impacts to the Coronado area, increased vehicular traffic could be mitigated to decrease the impact. The EIS analysis stating that regardless of new impacts the existing levels of service are at failure levels so mitigation would not be able to bring the level of service to acceptable levels is not correct. There are several possible 62-3

traffic mediation opportunities that were not analyzed and haven't been tried at NBC. Regardless of whether the analysis should have been more thorough under the cumulative project analysis of the analysis of the existing traffic section, the Navy should require analysis of the following traffic and noise reduction measures lessen the impact on Coronado:

62-3 Cont.

1. Handing every sailor or civilian checking into a Navy command the application and information brochure about the joint Navy-SANDAG carpool and mass transit subsidies in the I-commute program. A recent joint effort by NBC and the City of Coronado showed that many Navy personnel are not aware of the carpooling incentives available to them. This should be required training at check-in and annually thereafter.

62-4

2. Establish up front preferred parking at EVERY command for carpools.

62-5

3. Allow individual employees the right to request a varied start time to allow for carpooling or use of mass transit options with limited schedules such as Ferry, Bus, etc. Although the Navy has different shift start times for the civilians working at NADEP, most other commands do not allow later or earlier start times on an individual basis but it could allow greater carpooling and flexibility for Navy personal in addition to decreasing noise and traffic at the peak times.

62-6

4. Work with the City of Coronado Business Improvement District to underwrite the free bus throughout Coronado during the winter months, so that Navy personnel could hop on the bus at one NBC location and get off at the next for free.

62-7

5. Command Morale Welfare and Recreation Committees could hold contests for quietest car/motorcycles at each command.

62-8

6. NBC Coronado could institute a Navy bike share program like they have in Canada for use on Coronado to decrease vehicle noise and encourage physical activity for a healthier lifestyle for all navy personnel, Active Duty and civilian; and

62-9

7. Revisit dedicated buses to military housing. Rather than use big expensive MTS buses, consider a target Van Pool service that would be free to Housing residents but paid for by Navy and I-commute subsidies. Although the first effort did to have high participation, neither did the Coronado BID free summer program in its first year. By the second year when people knew it would be running every day at the same time, a regular clientele built up. The same could happen for h shuttle from nearby military housing. Why not start with one from Chief housing on Coronado.

62-10

Third, the Navy should provide an easily located email address to file noise complaints from operations or Navy traffic on the NBC website and other locations. Currently the noise complaint phone number is easy to locate but after a thorough review of the NBC website, there is no easily identified email address to file a complaint. Many residents feel Naval airplanes are flying out side of normal flight patterns and are coming closer to their homes than is allowed. An email reporting ability would allow the Navy to confirm the date and time of the alleged flight or vehicle and determine the cause of louder than normal operation. Whether the cause is low cloud cover amplifying the engine noise or actual violation of NBC flight rules, email reporting and Navy written response about the result of the noise complaint investigation would allow the public to view the responsiveness of the Navy. Transparency in investigating allegations of wrongdoing builds confidence in the public that the Navy is operating per their own

62-11

instructions.
Finally, the NBC Coastal Campus project is being justified in the EIS by vague statements that Congress directed the Navy to do something. The exact language of that directive should be provided. Unless Congress included a specific waiver of NEPA in that directive, all actions are required to be done in accordance with existing laws.
Thank you for the opportunity to provide comments.

62-11 Cont.

62-12

Sincerely,

Carrie A. Downey

Posted by:
Carrie Downey
cadowney@cadowneylaw.com
619-507-3603

Comment #24:

#63

Posted on Sep 23, 2014 at 17:00 PDT

PURPOSE

The purpose of this comment is to support the concept of Remote Front Gate (RFG).

63-1

BACKGROUND

First conceptualized and circulated by Coronado resident Paul Friedl, PhD, the RFG has the potential to remove 95% of the US Navy military traffic from Coronado and Imperial Beach, the location of the proposed Navy Coastal Campus project which is the instant Environmental Impact Statement.

Mr. Friedl is known by many people as the "Father of the Personal Computer" as a result of his distinguished career at IBM. Brief biography at http://www.svec.org/hall-of-fame-1994.html.

As an environmental attorney, it makes no sense to me that government agencies continue to ignore RFG. Obviously, RFG combines the concept of the Big Six in transportation management. The Big Six are: Commuter Ferry, MTS Buses, Casual Car Pooling (Slugging), Navy Van Pools, Park & Ride, Navy Express Buses.

For more information on the Big Six go to www.DailyCoronado.com and http://www.smartvoter.org/2010/11/02/ca/sd/vote/denny_b/paper2.html entitled "My Position on Traffic Management" dated 2010.

REASONS TO MAKE REMOTE FRONT GATE (RFG) A REALITY

Through the process of strategic management, the top 6 reasons to make RFG a reality are:

(1) It Enhances Evacuation During Disasters. Clogging up the Navy Coastal Campus with vehicles reduces the chances of survival for Navy personnel and residents of Coronado Village, Coronado Shores, Coronado Cays and Imperial Beach. Whether it is a natural disaster such as fire, earthquake, tsunami, aftershock, or a man-made disaster, adding vehicles to the Navy Coastal Campus complicates evacuations. In the interest of public health and safety, RFG should be the top priority of the Navy, Coronado city, Imperial Beach and all other controlling agencies. 63-2

(2) It's the Right Thing to Do. The US Navy, Coronado city, Imperial Beach, SANDAG and other interested agencies should make haste to bring the RFG to our area. Smart planning in overcrowded coastal towns requires, at a minimum, the reduction in the number of vehicles. Reduction in the number of vehicles is the essence of RFG. 63-3

(3) It Reduces the Number of Vehicles. RFG has the potential to reduce the number of vehicles by 95%. This is a significant concept that has been overlooked for too long. 63-4

(4) It Brings Air Quality Benefits. As is common knowledge, the San Diego area fails to meet federal air quality standards. By reducing the number of vehicles, air quality will improve and along with it, public health and safety. San Diego will have the potential to meet and exceed air quality standards. The US Navy, Department of Defense, and SANDAG should seize this opportunity with the RFG. 63-5

(5) It's Cost-Effective. With minimal taxpayer investment, involving remote parking and transporting Naval employees to the Navy Coastal Campus, the RFG is highly cost-effective. 63-6

(6) It Reduces the Potential for Fraud, Waste & Abuse of Public Resources. Taxpayer watchdogs know that government capital projects, at all levels, are riddled with the potential for fraud, waste and abuse of public resources. History proves that fraud, waste and abuse occurs through discovered and undiscovered overcharges, change work orders, bait-and-switch of materials, and so forth. The list goes on and on. 63-7

CONCLUSION

For all the above reasons, I strongly recommend that RFG is incorporated into the planning process.

63-8

Submitted independently by
Barbara T. Denny, Esq.
Coronado Mayor Pro Tem

Posted by:
Barbara T. Denny, Esq.
btdenny@gmail.com

August 16, 2014

#64

Commanding Officer Naval Base Coronado, Concerned Citizens, Planners, and EIS Document Writers

SUBJECT: $750 Million Dollar proposed Navy South Coastal Campus, 1.5 million acre facility on 546 acres and 9000 foot of natural beach footage of Coronado Heights a Historic and Biological Sensitive and unique remaining coastal habit

I WOULD DISAGREE with the purpose of this proposal that it is needed not because current facilities are obsolete and for the purported Global War on Terrorism (Terrorism is not new in warfare) since the 911 attack on the World Trade Center. In fact these facilities are duplicate of what already exist and not a good reason to to expand and build a new Special Warfare School for modernization of classrooms, duplicating already existing areas for physical fitness areas, equipment maintenance, and in water training, and another parachute loft. I cannot believe the excuse to consolidate command elements into newer nicer buildings that will also be obsolete. The real reason is to justify the use to this formerly prime public land and move off the current Naval Base as eletists. 64-1

I AM DEEPLY CONCERNED ABOUT THE OMMISSIONS and lack of full disclosure and the skirting of issues of importance other than the detailed plans for infrastructure of traffic, sewerage, and water delivery. I believe the smoke screen is the word "Campus" which will be luxurious housing for senior naval personal with one of the marvelous views on the Pacific Coast and a private beach for recreation. 64-2

THERE ARE ISSUES REGARDING THE NATIONAL PRESERVATION ACT that were dismissed and declared non eligible because by consultants as lacking integrity and even though plants and animals are rare and endangered are not listed as Federal Endangered List. The evidence reveals there are historic importance and enormous amount of important bird and plant species. 64-3

THE NAVY DOES NOT NEED THIS LAND BUT WANTS IT, I propose the whole plan be reconsidered to be saved in a Coastal Conservancy for protection. 64-4

I WOULD AGREE WITH CORONADO MAYOR CASEY TANAKA, "Working with the Navy has been incredible frustrating." "The Navy holds the cards to its vest". 64-5

This proposal is a stacked deck dealt with a slight of hand, The Joker Card is the $750 million "Campus" to duplicate an already existing Commando training base on endangered Coronado Heights. 64-6

Sincerely,

John Elwell

John Elwell
1417 Second Street, # G 206, Coronado, CA, 92118

Tel: 619-438271

HISTORIC CORONADO HEIGHTS (Revised 3/24/99)

By John Elwell

CORONADO HEIGHTS is the most beautiful and interesting last developed area that remains on the Coronado peninsula adjacent to Imperial Beach, and of the once part of the original Spanish Carrillo Rancho, deeded by California's first Governor Pio Pico. Yet, it is the most unseen, unknown, and forgotten in our community. It is more commonly known now as Fort Emory or the Navy Radio Station located at the end of the Silver Strand in the City of Coronado, next to the bird refuge on the southern end San Diego Bay. The 546 acres and 9000 feet of natural California beach frontage was created originally as Coronado Heights in 1887, by the Pacific Coast Land Bureau, a real estate development company.

Planners then subdivided the area into hundreds of lots with streets numbered and lettered like Coronado. Cyprus and eucalyptus trees were planted to beautify the area. A rail line was rushed into completion by a tented encampment of Chinese laborers. A water system was proposed from a large spring nearby, called Russian Springs found by Russian otter hunters, located in the present Coronado Cays community, once called The Hog Ranch. The plans also indicated that a large hotel would be built like the Hotel Del Coronado on the northern end.

Advertising during January, 1888 in the Coronado Evening Mercury heralded, "This Favored Land, Don't Miss This Chance of a Lifetime!" The Mercury later reported on January 30th, that between twelve to fifteen thousand people came for the grand opening. Most of them were shuttled down the Strand from the Hotel Del aboard trains twenty minutes apart. They were hosted in fair weather to a barbecue while viewing the lots. Some even came by boats.

Sales were later conducted that evening in the Hotel del Coronado theater. Over 600 lots were sold for $181,550 in hot bidding until nine o'clock closing time. The Mercury reported, Many went away without getting one."

What happened to Coronado Heights was a mystery. The late Katherine Carlin diligently researched the problem for her Coronado history book It was her conclusion that a great

depression hit shortly after the sales, people who bought the lots lost them by failing to pay taxes.
Some farming and grazing continued on the land. Real estate development was forgotten as the country recovered from depression and then went into the first World War, followed by another great depression.

Coronado Heights had earlier been the site of successful communities. It was "a favored land" by our local Native Americans. Relics and human bones found by archeologists have been dated at approximately 9000 years ago are from the San Dieguito people, which coincide with the Egyptian Pyramid civilization in time. Other finds indicate that the La Jolla people lived there six thousands years ago. They were followed by a more recent migration about four thousand years ago by the Kumeyaay Indians. Fresh water was nearby, bird's eggs, fishing, small game hunting fishing, and clamming provided an easy lifestyle in mild weather for these indigenous peoples.

In 1920 the Navy founded a Radio Compass Station there. In 1941 a small Naval Radio Detection
Finder Station was established. Later, after 1948 a single small building was established as a Navy Radio School with 50 students and 1000 men. Right after the war some temporary buildings housed a hospital for combat stressed veterans for rehabilitation for a short time.

It was during 1941 and WW II, through condemnation proceedings that the Navy and Army acquired the 145 choice remaining acres of the undeveloped Coronado Heights land for Fort Emory.

Huge gun emplacements were built in bomb proof concrete bunkers for an impending invasion from the Japanese, which was a remote possibility. The fort was never completed. The huge 16 inch coastal artillery batteries were never installed. The big guns were intended to be 16 inch coastal batteries that were eventually similar to the ones on the battleship New Jersey. Today, the massive bunkers still stand, relics of the past, like an ancient fortress covered with earth and natural .foliage, surrounded by the now 100 year old wind shaped trees planted by the developers of the Hotel del Coronado. A spotting and field artillery direction bunker still sits on a hill side

just outside the Mexican border south of Imperial Beach with a panoramic view to aid the direction of fire for an impending Japanese invasion that never came.

The present Navy radio facility, a giant Wullenweber circular antenna was constructed in 1964 on the southern area. The antenna is a German design found after the war in a secret location in a German forest. Only 14 exist in the world today. Their purpose is for radio signal detection and receiving. They are staffed by elite communication specialists. They do contribute to maritime safety being able to pick up the faintest distress signal and locate the position. They are complex and top secret for their other uses. With newer satellite space receiving and sending, the future of the Wullenweber obsolescence is not known to the public.

Of another major importance today, Coronado Heights has remained a rare biological island that contains the last remnants of our once unique examples of natural Southern California coastal habitats. There are fields and hills of wild oats, brightly colored wild flowers, succulent ice plants, trees, shrubs, ponds with water fowl, birds, and small animals.

There are nine distinct plant communities containing 173 plant and 140 animal species. Four uncommon plants survive including a rare coastal cactus which is on the endangered list. There are also eight environmental sensitive bird species which depend on this habitat. There are five other species which frequent the area, including the endangered Light Footed Clapper Rail and Bildings Savannah Sparrow. Golden Eagles have been observed to spend time in the area.

From time to time local golf course promoters have eyed the area. The Navy has been quietly put portions of the land under Federal Wildlife Protection. The City of Coronado is now making renewed efforts to reacquire the land and landscape into another profitable high class golf course. Even though the City of Coronado sold the old golf course along Alameda Boulevard for residential housing, then acquired the dredged up sand area which is now the present golf course, and then sold another proposed golf course for residential development at the Coronado Cays. A new golf course on Coronado Heights is highly unlikely, as the Audubon Society, Sierra Club, and environmental groups are outraged and will fight to keep it a rare

biological preserve and keep the sacred Native American burial grounds undisturbed. A Navy spokesperson said, "A public golf course will never happen here." This is probably correct with The San Diego Port District purchasing a large amount or the acreage, with Federal Wildlife future interests, and the California Fish and Game. First choice will go to one of these agencies and not to Coronado. The future is to be seen as powerful political strings are being pulled. The Navy has been willing to compromise and now is talking about putting more housing in this area, as they have done on the Silver Strand which inundated acres of endangered Least Tern habitat and other wild life area along beach habitat for profitable military rental property developed with citizen's tax money. A lot of double talk has been heard to keep a portion of this remaining land under military and federal control verses preservation. The City of Coronado City has been unaware of all the complicated problems involving acquisition for a another golf course.

Of an amusing note, Russian Springs the intended water source for Coronado Heights at the Coronado Cays, was bull dozed over and built upon, and now some residents are complaining of ground water. The springs were estimated to be so plentiful that they would water a golf course there. No one knows where it is now. Another spring at the head of runway two-niner is still flowing at the North Island. The spring at the end of two-niner, where whalers filled their casks with water was also capped by concrete when the runway was extended and is gone and the location is unknown. Both were used by our local Indians. Springs along the peninsula are also a geological mystery. Old fisherman said they use to pick up fresh water upwellings off Coronado Heights beach. This has not been verified or ever located.

The rolling sand dunes on the beach side outside the security fence of Coronado Heights is also covered with non native flowering ice plant, small plants, and laced with small game trails. Plant life is often crushed by all terrain four wheel drive government patrol vehicles from time to time. The shoreline is littered with interesting flotsam. Trash has been a frequent problem coming from the Tijuana River mouth after storms that reaches along the Imperial Beach, the Silver Strand and to Coronado in abundance with sewerage. There has been no quick fix to this problem and it has
been recognized as serious and solutions are being put forth.

This beach was Coronado's only unofficial nude beach for awhile. It is now patrolled by a number
of agencies. It has been a well used smuggler's beach on foggy mornings and black nights. It still
remains in use by surf fishermen, dog walkers, joggers, and walkers. The clean grainy sand is littered in some locations with shell piles, and is a shell collector's delight.

The sea itself is awash with mystery along old Coronado Heights beach. The first reports of a sunken submarine publicly surfaced in 1970. Two youthful Scuba divers decided to check out what fisherman were calling an underwater obstruction close to the beach on maps. Bait seiners were losing their nets on something. The divers found a sunken submarine with its bow buried in the sand with its superstructure and stern draped in fishing nets. They kept their secret and salvaged two large props and sold them to a salvage yard for a handsome profit. Naval Intelligence checks out salvage and found the props. They traced the props and set out to arrest the divers. They were shocked they were from a submarine with numbers that indicated that were from S. 37 built in 1919 by the Union Works in San Francisco!

Navy records say the S. 37 had normal peacetime operations up to the outbreak of WW II when she was operating out of Cavite in the Philippine Islands. She was old and having mechanical problems but put out to sea courageously for war and won five battle stars. With distinction she sank the first Japanese destroyer by a US sub in the straits of Makassar. Weak from depth charge attacks she limped back to the US early in the war and became a training ship. She was decommissioned in 1946.

A couple of conflicting different versions of what happened next were released by the Navy. The first one is she broke away undertow to be bombed and sank. The second story is that she was bombed in practice and sank somewhere off California. The old sub refused to die, and had enough neutral buoyancy and nestled into the sand off Coronado Heights intact with no damage with the conning tower hatch open!

She lies off Coronado Heights on the northern end of the Radio Station, 50 feet

beyond the surf line in about 20-30 feet of water. Her shears are just under the water. She is a known dive spot on rare clear surgeless days. She is encrusted with marine growth, has teak decks, and even port holes in the conning tower. A real rarity in submarines. Fish swarm around her, and inside where cockroaches use to live, their sea cousins lobsters now abound in abundance where brave sailors once lived and fought.

Within Coronado Heights is a section of old Highway 75, a narrow two lane concrete road with a
faint yellow middle divider line, with 100 year old cyprus trees alongside. This remaining portion is the last of the first of the original Silver Strand Highway, and one of the first paved roads in the State. When it was being built a local minister condemned it as "The Road to Hell", because it gave his parishioners a quicker and easier access to Tijuana. A section of railroad tracks from the original railroad built still remain as the last remnants of the faded historic past.

The access to view Coronado Heights, Fort Emory, the Wullenweber antenna, the fauna and wild-life is from Coronado Cays to the State Beach Park or from Imperial Beach next the YMCA Camp Surf. It is a mile or so walk One can beach comb for hours, study wildlife, and dream of the past where Indians lived, or imagine Spanish Galleons pass, or where Chinese coolies lived and worked on the railway, and Mexican and Spanish cowboys herded cattle. The old S.37 submarine remains forever submerged on its last dive beneath the surf line.

It is a rare feeling to get today of what Coronado was many years ago. It is still historic Coronado Heights, a rare wildlife refuge and remains a "Favored Place", with an undetermined future.

J. E.

#65

COMMENTS ON NBC COASTAL CAMPUS

I am a 20+ year resident of Coronado, living in the Coronado Cays. During this time I have personally witnessed the growth of excessive vehicular traffic on the highways running through our city. In 2008, Admiral Herring, then Commander of US Navy Southwest Region, recognized this trend and sponsored a public hearing aimed at getting public input on "Mitigating Traffic to Coronado Bases". His call for input led me to conceive a plan which if implemented would eliminate up to 95% of military commute traffic serving Coronado Navy bases. I presented this plan which I dubbed the "Remote Front Gate (RFG)" at the public meeting using my allotted 3 minutes on the floor, as well as turning in a Power Point slide show to the meeting's registrar.

Admiral Herring immediately understood the potential benefits of an RFG strategy, and began a two phase project to test RFG. He worked through SANDAG to set up the first phase one-year pilot test which became known as the "Murph Express". The Murph Express featured express non-stop door-to-door bus service from Navy housing in Murphy Canyon to Coronado Navy bases. Detailed data was collected by SANDAG on ridership, etc. A very valuable result of the Phase 1 pilot was documented proof that even if presented with an optional express bus commute service, only 1% of the military commuters elected to use the Murph Express, and instead chose to continue operating their driver-only vehicles for their commute to Coronado bases.

Phase 2, namely the pilot test of the RFG strategy, never happened. One main reason is that Admiral Herring retired, and no one was knowledgeable or interested enough to pick up the ball. This is extremely unfortunate for the Navy, its military commuters, and the people of Coronado and San Diego! In addition to eliminating 95% of military commute traffic, RFG has more than enough potential benefits for all stakeholders.

- **Increased Base Security**
- **Improved Quality of Life for all Drivers**
- **Reduced Air and Noise Pollution**
- **Less use of Gasoline**
- **Solar Parking Lot Renewable Energy**
- **New Jobs for Vets**

All commuters need to report to their place of business at a definite time and place. This process is called "Mustering" in the Navy. RFG uses the identical process, i.e. military commuters would still drive their own car to their muster point; BUT with RFG, muster points would be located in the east bay and closer to the homes of the commuters. The commuter arrives at an east bay muster point, and parks his/her car under a solar roof to insure that s/he would have a relatively cool car to drive home at the end of the day. The commuter could then grab a coffee and roll, swipe an ID badge, and board a modern battery/hybrid shuttle for a comfortable ride to his/her base.

Why should Phase 2 have any better participation than Phase 1?

Participation in Phase 1 meant that the commuter had to give up his/her car after driving to the base. 99% of military commuters thought that this was unacceptable and refused to take the express bus.

The RFG strategy recognizes and solves this situation! RFG proposes to use any of a number of car sharing services like Cars2Go to enable personnel to leave their base in order to make short excursions around town for their personal reasons. These share cars would also be available for emergency use.

Unlike Phase 1, Phase 2 does not offer commuters a transportation option. Commuters would still be expected to report to a muster point at a certain time of day (as they do now).

To view the RFG strategy, click on this link --
https://www.dropbox.com/s/b7lfo65ffdp1tdi/Streamlining%20the%20Military%20Commute.ppt?dl=0

Why has RFG not been adopted by the Navy or backed by the City of Coronado?

In my opinion, the personal relations between the Navy and the Coronado City Council have degraded from poor to hostile since 2008. Ladies and gentlemen from both groups – PLEASE, for the sake of everyone, get together, smoke the peace pipe, and begin a new era of cooperation! The expected arrival of the third nuclear carrier here, and now a plan to build a new campus, will submerge Coronado in military traffic if no action such as RFG is taken. It is worthy to note that the Navy does not need to get Coronado's support in order to test and adopt RFG. An active Navy RFG strategy will remove up to 95% of military traffic going to and between the existing bases and the new coastal campus – the Navy should understand this and include RFG in its Coastal Campus plans.

65-1

Paul Friedl
pfriedl2001@yahoo.com

#66

Unified Port of San Diego

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P.O. Box 120488, San Diego, CA 92112-0488
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September 17, 2014

Naval Base Coronado Coastal Campus EIS
Teresa Bresler
Naval Facilities Engineering Command Southwest
2730 McKean St., Bldg. 291
San Diego, CA 92136-5198

Re: Naval Base Coronado (NBC) Coastal Campus Draft Environmental Impact Statement (DEIS)

Dear Mrs. Bresler:

The Port of San Diego (Port) would like to thank you for the opportunity to comment on the Draft Environmental Impact Statement (DEIS) for the Naval Base Coronado (NBC) Coastal Campus (Project). The Port's Environmental and Land Use Management Department reviewed the NBC Coastal Campus fact sheet, the executive summary and portions of the Project's DEIS. The Port understands that the U.S. Navy (Navy) is preparing a DEIS to evaluate the potential environmental impacts associated with the construction, maintenance and ongoing operations of a new academic campus, that would involve approximately 1.5 million square feet of facilities including a mix of instructional and administrative facilities.

Port staff has the following comments regarding the Project and associated DEIS:

- The Port recently completed the twelve-acre Emory Cove restoration project, which is located adjacent to the Silver Strand Complex Training Complex South, along its northeastern boundary. To help ensure that the recently restored Emory Cove area is not adversely impacted by the proposed NBC Coastal Campus Project, the Port requests that *Figure 2-2 SSTC-South Existing Development Considerations Map* classify the Emory Cove site as an Environmentally Sensitive Area (ESA). For easy reference, attached is a figure that shows the boundaries of the Emory Cove restoration project superimposed on EIR Figure 2-2. 66-1

- According to *Table ES-3 Summary of Effects*, the proposed Project and all of its alternatives would not result in impacts to the California least tern, and there would be a loss of 0.15 acres of critical habitat for the Western Snowy Plover (WSP). The DEIS states that biological impacts would be mitigated by continued monitoring of the number of species, quality of habitat and potential behavior changes. In addition, the DEIS identifies several mitigation measures which are specific to the WSP and its habitat (B-25 to B-31). Provided that impacts are limited to 0.15 acres of WSP critical habitat, and that all mitigation measures identified in the DEIS are implemented, the Port does not have any issues with the proposed Project or its alternatives. 66-2

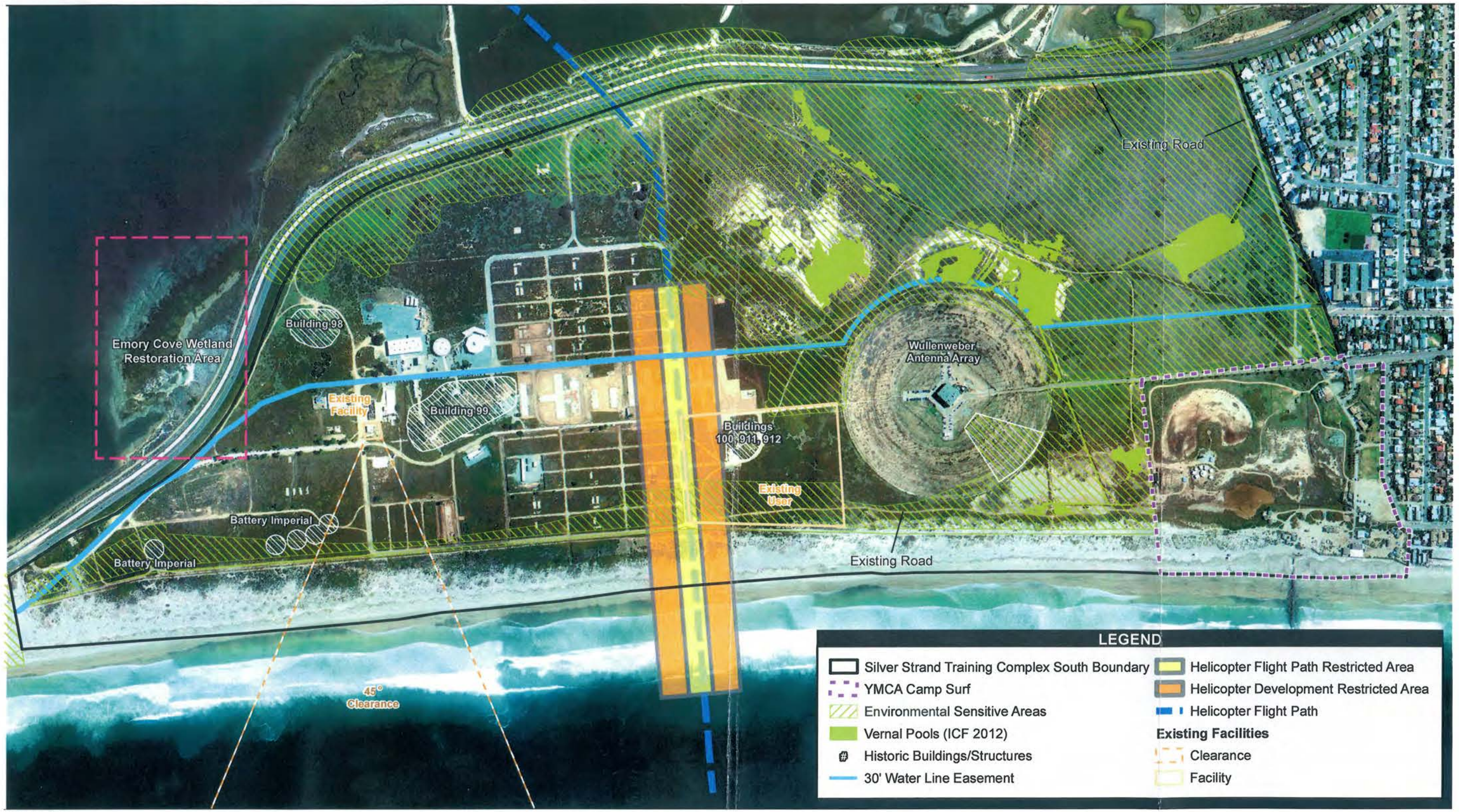
The Port appreciates continued notification regarding the progress of the Project and DEIS. Please contact Eileen Maher at (619) 686-6254 with any questions.

Sincerely,

Jason H. Giffen
Director
Environmental and Land Use Management

Attachment: District Figure: Request to have Emory Cove Restoration Project Superimposed on Figure 2-2 as an Environmentally Sensitive Area (ESA)

District Figure: Request to Have Emory Cove Wetland Restoration Project Super-imposed on Figure 2-2 as an Environmentally Sensitive Area



Source: ESRI 2014

600 300 0 600 Feet

Scale: 1:7,200; 1 inch = 600 feet

*The buffers along the western boundary are a general guideline for development restrictions.
**Vernal pools watershed include a 50-foot buffer

Figure 2-2
SSTC-South Existing Development Considerations Map

#67

State of California • Natural Resources Agency
DEPARTMENT OF PARKS AND RECREATION
San Diego Coast District
4477 Pacific Highway
San Diego, CA 92110
(619) 688-3260 FAX (619) 688-3229

Edmund G. Brown Jr., *Governor*
Lisa Mangat, *Acting Director*

September 22, 2014

Teresa Bresler
Naval Facilities Engineering Command Southwest
2730 McKean Street, Building 291
San Diego, CA 92136

RE: Naval Base Coronado Coastal Training Complex Draft EIS, July 2014

Dear Ms. Bresler,

Thank you for the opportunity to comment on the Draft Environmental Impact Statement (DEIS; July 2014) for the proposed Naval Base Coronado Coastal Training Complex project (Project), located north of the City of Imperial Beach, west of State Highway 75 and south of Silver Strand State Beach. California State Parks (CSP) is the land manager of Silver Strand State Beach (SSSB).

CSP appreciates the importance of the Congressional mandates for the growth of Special Forces and associated training facilities. CSP understands from the DEIR and your outreach meeting at our offices (4/15/14) that the complex will involve development of approximately 161.8 acres including 34 acres of structures, a 120 foot tall parachute drying structure, a new access from HWY 75, and approximately 3,500 trainees and support staff using the site per day. We remain concerned about the indirect effects from the dramatic change in use and intensity of the site with respect to management of Silver Strand State Beach and the connectivity and conservation of adjacent natural and cultural resources. 67-1

Natural Resources
CSP is concerned that the Project will cause significant adverse effects to Western Snowy Plover (WSP) and WSP critical habitat. Only 0.23 acres of southern fore dune (WSP habitat) are estimated to be directly impacted by the Project but the increase in the intensity of use of the site (1.5 million square feet of facilities over a 161.8 acre development site and presence of approximately 3,500 people per day) will likely result in significant adverse impact to WSP. 67-2

Predators – The large increase in facilities (including cafeterias, convenience stores, perching opportunities, lighting, site landscaping, etc.) and people to the training complex will increase the amount of food, freshwater and habitat available to animals that thrive around human settlements and prey upon native wildlife including WSP. It is expected that Common Raven, California gull, California ground squirrel, Argentine ant, black rat, and other nuisance species will benefit from the Project development and expand their presence in the vicinity. 67-3

Loss of Buffer – CSP is also concerned about the 485 foot long approach lane and associated widening of south bound HWY 75. The DEIR suggests that the land immediately adjacent to southbound HWY 75 does not support WSP breeding habitat and will not adversely impact WSP if developed. While this area does not support WSP nesting it is important to the SSSB Natural Preserve (Preserve) in that it acts as a buffer to the suitable breeding habitat. As this buffer is reduced in size it will bring adverse urban effects (for example noise, pollutants, impermeable surfaces, invasive plants and animals) closer to breeding sites of WSP and other rare species within the Preserve. Because of its proximity to the highway the buffer area (between the chain link fencing and the highway) is subject to more frequent physical disturbance and an excess of freshwater from precipitation runoff from the impermeable highway surface. These factors support greater densities of productive invasive plant species that will encroach further into the Preserve area reducing potential breeding habitat for WSP and providing cover for mammalian predators. 67-4

Additionally, the 485 foot approach lane, traffic signal and new entrance road will greatly change the flow of traffic along the south eastern edge of the Preserve. The DEIR suggests that the slowing of traffic in this area will decrease the noise generated from the current traffic flow. CSP is concerned that the acceleration and deceleration from the changes may increase the noise and that the greater number and increased duration of vehicles idling while waiting to enter the Complex may increase noise and pollutants within closer proximity to the Preserve. 67-5

Increased Public Use – CSP is concerned that the increase in people utilizing the complex (an estimated 3,500 per day) will increase public beach use at the southern end of Silver Strand State beach, adjacent to the Dune Natural Preserve. With the increase in beach use originating from the complex there will be increased threat to endangered species as visitors are more likely to enter into the Preserve and WSP breeding habitat. 67-6

The DEIR posits that the project will not result in significant adverse effects to Nuttall's lotus (*Acmispon prostratus*). From the mapping data it appears that the majority of the suitable habitat for Nuttall's lotus will be eliminated by the Project. Nuttall's lotus is a California Native Plant Society (CNPS) 1B.1 ranked species. According to CNPS "*All of the plants constituting California Rare Plant Rank 1B meet the definitions of Secs. 2062 and 2067 (California Endangered Species Act) of the California Department of Fish and Game Code, and are eligible for state listing. It is mandatory that they be fully considered during preparation of environmental documents relating to CEQA*". While the standards are different for a NEPA analysis, the proposed Project's impacts to Nuttall's lotus would likely meet the Federal standards for a significant adverse effect and require the appropriate mitigation. 67-7

CSP recommends the following mitigation measures to avoid significant impacts to WSP, WSP Critical Habitat, and sensitive habitats and wildlife.

- Maintain strict low impact development (LID) designs that reduce water use and capture imported water or allow the water to infiltrate within soils evenly throughout the developed areas. 67-8
- Develop and implement an integrated pest management plan that incorporates wildlife proof trash receptacles, perch proof structures, and pest control. 67-9
- Provide funding for a predator control contractor that manages predators both on Navy Land and on the southern 1,000 feet of the Silver Strand State Beach Preserve during the WSP breeding season. 67-10
- Employ a permanent, full time natural resource site manager to coordinate minimization, avoidance, and mitigation measures and provide monitoring and enforcement support for WSP habitat onsite and adjacent to The SSSB Preserve. 67-11
- Through the strategic use of building layout, pedestrian circulation routes and fencing (as well as limiting ocean views of Complex pedestrians, develop a site design for the Complex that restricts the number of beach access points to one location, at the southern (more urban) end of the beach. 67-12
- Incorporate Nuttall's lotus into landscaping, restore and enhance populations of Nuttall's lotus in preserved land on the site. 67-13
- Conserve the remaining habitat onsite into a natural preserve (or Navy equivalent). 67-14
- Communication and coordinate with State Park staff and contractors with quarterly meetings to improve regional WSP management efforts. 67-15
- Restore habitat and provide ongoing maintenance within the HWY75/SSSB Buffer Area along length of 485' deceleration lane. 67-16
- Prohibit vehicular activity on the beach in front of the State Park. 67-17
- Develop and implement an educational outreach program to train and refresh training about working within close proximity to Sensitive Species and Habitats. Provide all staff with rules regarding protection of the Sensitive lands on Naval and State Park Property. Implement an enforcement program so that the rules are strictly followed. 67-18

Cultural Resources

CSP supports Alternative 2 with regard to Cultural Resource Impacts. Alternative 2 does not cause adverse effects to historic resources involving demolition of historic bunker (building 99) a contributor to the NRHP-eligible Fort Emory Coastal Defense Historic District. 67-19 Given the extent of known archaeological resources within the area and the potential to discover unknown cultural resources and the potential discovery of human remains within the APE, in addition to a qualified archaeological monitor, a Native American monitor should be included in the monitoring and data recovery plan. 67-20 San Diego Coast District (SDCD) cultural resources staff also request any project related cultural resources reports (including final monitoring report) in order to better understand the project scope and the potential impacts as well as the overall regional understanding of human occupation on the Silver Strand. 67-21

In response to the following statement, included in the Naval Base Coronado Coastal Campus EIS, that an "Intensive pedestrian archaeological survey has also been conducted [1982] of Silver Strand [State] Beach immediately adjacent to SSTC-South to 67-22

the north (Woodward and Stammerjohan 1985)" (2014:3.8-8), it is important to note that cultural resources have been identified since that time and that the record search data obtained as part of the 1982 cultural resources survey was incomplete and therefore the results documented are outdated. It is recommended that an intensive archaeological survey along the beach be conducted prior to potential ground disturbing activities. In addition, if any work is to be conducted on State Park property the CRM should consult with SDCD Archaeologist. 67-22 Cont.

Please submit cultural resource documents to SDCD Archaeologist Nicole Turner (Nicole.Turner@parks.ca.gov). 67-23

Thank you for allowing us to comment on the DEIR and hope that our comments and recommendations serve to improve the Project. We have greatly enjoyed working with the Navy's natural resource staff and contractors and feel that if properly implemented the Project could help further develop a partnership between the Navy and California State Parks San Diego Coast District. Please feel free to contact my District Services Manager Darren Smith (619) 952-3895 if you have any questions or need for clarification.

Sincerely,

Clay Phillips, San Diego Coast District Superintendent

Cc. Richard Dennison, Sector Superintendent
Darren Smith, District Specialist Manager
Chris Peregrin, Reserve Manager Tijuana River National Estuarine Research Reserve
Nicole Turner, District Archaeologist
Cindy Krimmel, District CEQA Coordinator
Reading File

#68

Carrie Anne Downey
Law Offices of Carrie Anne Downey
1313 Ynez Place
Coronado, CA 92118
cadowney@cadowneylaw.com
(619) 522-2040

Naval Base Coronado
Coastal Campus EIS Project manager
Attn: Ms. Teresa Bresler
2730 McKean Street, Building 291
San Diego, CA 92136

Service by: email at www.NBCCoastalCampusEIS.com

September 22, 2014

Subj: NAVAL BASE CORONADO COASTAL CAMPUS EIS

Dear Ms. Bresler:

I am a retired Navy Jag Officer, former Coronado City Councilwoman, and practicing Environmental Attorney. While I appreciate the Navy's need to utilize their existing land to the best possible extent in the Naval Base Coronado ("NBC") Coastal Campus project, I disagree with several fundamental principles in the NBC Coastal Campus Environmental Impact Statement ("EIS"). I agree with and incorporate all of the concerns raised by the cities of Coronado and Imperial Beach in these comments but include several other concerns and mitigation suggestions to assist in mediating the impacts. 68-1

First, the EIS assumes that the project EIS is only required to analyze the additional new traffic in Coronado resulting from the consolidation of activities in the proposed project. The EIS denies there will be an increase in vehicles entering and exiting Coronado as a result of the project. While the City of Coronado's comments suggest the failure to address traffic impacts is because of an inappropriate analysis of the cumulative impacts of the project with the earlier Naval Base Coronado projects, I also believe there is another fundamental error in the EIS traffic analysis. The National Environmental Policy Act ("NEPA") requires Federal Agencies to analyze the impacts from any new proposed projects. Existing conditions form the basis for the No Project Alternative under NEPA. In essence environmental impact analysis is not required on conditions that are assumed to have already completed environmental review or to predate NEPA enactment. However the changes proposed in Alternatives one and two: consolidating and relocating Naval Special Warfare ("NSW") facilities, operations and personnel at a new location within NBC, require analysis of all traffic that arises as a result of Naval Special Warfare locations with NBC. While it is true that some Naval Special warfare activity existed pre-NEPA at the then Naval Amphibious Base Coronado, the traffic impact from NSW personnel arriving and departing NBC was never analyzed or mitigated since the passage of NEPA. The proposed relocation of 68-2

operations, regardless of whether it is an increase in personnel or is a new project for purposes of NEPA, should be fully analyzed as if they were all new. The traffic impacts from all NSW operations has never been broken out of the other military operations at the NBC complex to determine their impacts separate from the Air or other operations. The change of locating them at a new based is significant enough a change that all NSW operations at the new location including the arrival and departure of personnel should be analyzed. They can be counted as easily by a traffic strip. Having a number at the start will allow the Navy and Coronado to better assess the impact of programs that aim to decrease single occupancy vehicle traffic. 68-2 Cont.

Second, whether the consolidation or merely the increase in tempo creates additional traffic impacts to the Coronado area, increased vehicular traffic could be mitigated to decrease the impact. The EIS analysis stating that regardless of new impacts the existing levels of service are at failure levels so mitigation would not be able to bring the level of service to acceptable levels is not correct. There are several possible traffic mediation opportunities that were not analyzed and haven't been tried at NBC. 68-3

Regardless of whether the analysis should have been more thorough under the cumulative project analysis of the analysis of the existing traffic section, the Navy should require analysis of the following traffic and noise reduction measures to lessen the impact on Coronado:

1. Handing every sailor or civilian checking into a Navy command the application and information brochure about the joint Navy-SANDAG carpool and mass transit subsidies in the I-commute program. A recent joint effort by NBC and the City of Coronado showed that many Navy personnel are not aware of the carpooling incentives available to them. This should be required training at check-in and annually thereafter. 68-4
2. Establish up front preferred parking at EVERY command for carpools. 68-5
3. Allow individual employees the right to request a varied start time to allow for carpooling or use of mass transit options with limited schedules such as Ferry, Bus, etc. Although the Navy has different shift start times for the civilians working at NADEP, most other commands do not allow later or earlier start times on an individual basis but it could allow greater carpooling and flexibility for Navy personal in addition to decreasing noise and traffic at the peak times. 68-6
4. Work with the City of Coronado Business Improvement District to underwrite the free bus throughout Coronado during the winter months, so that Navy personnel could hop on the bus at one NBC location and get off at the next for free. 68-7
5. Command Morale Welfare and Recreation Committees could hold contests for quietest car/motorcycles at each command. 68-8
6. NBC Coronado could institute a Navy bike share program like they have in Canada for use on Coronado to decrease vehicle noise and encourage physical activity for a healthier lifestyle for all navy personnel, Active Duty and civilian; and 68-9
7. Revisit dedicated buses to military housing. Rather than use big expensive MTS buses, consider a target Van Pool service that would be free to Housing residents but paid for by Navy and I-commute subsidies. Although the first effort did not have high participation, neither did the Coronado BID free summer program in its first year. By the second year when people knew the free shuttle would be running every day at the same time, a regular clientele built up. The same could happen for h shuttle from nearby military housing. Why not start with one from Chief housing on Coronado. 68-10

Third, the Navy should provide an easily located email address to file noise complaints from operations or Navy traffic on the NBC website and other locations. Currently the noise complaint phone number is easy to locate but after a thorough review of the NBC website, there is no easily identified email address to file a complaint. Many residents feel Naval airplanes are flying out side of normal flight patterns and are coming closer to their homes than is allowed. An email reporting ability would allow the Navy to confirm the date and time of the alleged flight or vehicle and determine the cause of louder than normal operation. Whether the cause is low cloud cover amplifying the engine noise or actual violation of NBC flight rules, email reporting and Navy written response about the result of the noise complaint investigation would allow the public to view the responsiveness of the Navy. Transparency in investigating allegations of wrongdoing builds confidence in the public that the Navy is operating per their own instructions. 68-11

Finally, the NBC Coastal Campus project is being justified in the EIS by vague statements that Congress directed the Navy to do something. The exact language of that directive should be provided. Unless Congress included a specific waiver of NEPA in that directive, all actions are required to be done in accordance with existing laws. 68-12

Thank you for the opportunity to provide comments.

Sincerely,

Carrie A. Downey

APPENDIX B

AIR QUALITY

RECORD OF NON-APPLICABILITY (RONA) FOR CLEAN AIR ACT CONFORMITY

Naval Base Coronado Coastal Campus EIS

INTRODUCTION

The U.S. Environmental Protection Agency published *Determining Conformity of General Federal Actions to State or Federal Implementation Plans; Final Rule*, in the 27 February 2009, Federal Register (40 C.F.R. §§ 6, 51, and 93), revised on 24 March 2010. The U.S. Navy published *Navy Guidance for Compliance with the Clean Air Act General Conformity Rule, as reference (d) in* , OPNAVINST 5090.1D, *Environmental Readiness Program Manual* dated 10 January 2014. These publications provide implementing guidance to document Clean Air Act Conformity Determination requirements. This Record of Non-Applicability (RONA) is provided to document compliance of the Proposed Action.

Federal regulations state that "no department, agency, or instrumentality of the Federal Government shall engage in, support in any way or provide financial assistance for, license or permit, or approve any activity that does not conform to an applicable implementation plan." It is the responsibility of the federal agency to determine whether a federal action conforms to the applicable implementation plan before the action is taken (40 C.F.R. § 51.850(a)).

Federal actions may be exempt from conformity determinations if their emissions do not exceed designated *de minimis* levels for the criteria pollutants of nonattainment or maintenance in the areas of the federal action (40 C.F.R. § 51.853(b)). Applicable *de minimis* levels (in tons/year) for the nonattainment and maintenance pollutants for projects (i.e., the Proposed Action) in the San Diego Air Basin (SDAB) are listed in Table 1.

Table 1
Applicable *de minimis* Levels of the Nonattainment and Maintenance Criteria Pollutants in the SDAB

Criteria Pollutant - Precursor	*de minimis* levels (tons/year)
Carbon Monoxide (CO)	100[1]
Ozone (O_3) – Oxides of Nitrogen (NO_X)	100[2]
Ozone (O_3) – Volatile Organic Compounds (VOCs)	100[2]

[1] Attainment/Maintenance Area for CO.
[2] Basic nonattainment area for 8-hour O_3 precursors: NO_X and VOCs.
Source: 40 C.F.R. § 93, U.S. Navy 2014.

PROPOSED ACTION

Activity: The U.S. Navy proposes construction and upgrades of utilities and infrastructure to support Naval Special Warfare Command's (NSWC) current and future operational readiness; specifically, the Coastal Campus Strategic Plan to augment facilities supporting NSWC training located on components of Naval Base Coronado (NBC) in San Diego County, California. The NBC facilities currently used are located on

Naval Air Station North Island (NASNI), Naval Outlying Landing Field Imperial Beach (NOLFIB), and the Silver Strand Training Complex (SSTC), which includes Naval Amphibious Base (NAB) Coronado.

Proposed Action Name: Naval Base Coronado Coastal Campus

Proposed Action Summary: Specific proposed actions within the Coastal Campus Strategic Plan proposal are (1) evaluation of current land use and available facilities; (2) augmentation by design and construction of new facilities to support logistics, operations, training, and administration for NSWC; and (3) design and construction of related site improvements that may include utilities, fencing, roads, and parking. Three alternatives to the Proposed Action, including the No Action Alternative, are evaluated in the project's Environmental Impact Statement (EIS).

Air Emissions Summary: Based on the air quality analysis for the Proposed Action in the project's EIS, the maximum estimated emissions of applicable pollutants would be below conformity *de minimis* levels in the SDAB. The estimated annual emissions and corresponding conformity *de minimis* levels for the Proposed Action are shown in Table 2.

Table 2
Estimated Annual Air Pollutant Emissions of the Proposed Action

Calendar year	Air Pollutant Emissions (tons/year)					
	VOCs	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Annual Emissions	2.64	3.90	6.22	0.04	2.71	0.46
General Conformity Thresholds	*100*	*100*	*100*	*NA*	*NA*	*NA*
Exceed thresholds each year?	No	No	No	NA	NA	NA

Totals rounded to the nearest whole number.
Source: 40 C.F.R. § 93

Date RONA prepared: 8 December 2014

EMISSIONS EVALUATION AND CONCLUSION

Project emissions have been evaluated using URBEMIS 2007, version 9.2.4, a computer software package developed for and approved by the California Air Resources Board (CARB) for modeling air emissions for land use developments. The emissions factors and calculation methodologies contained in URBEMIS 2007 are applicable for the Proposed Action because the construction emissions factors are for the same types of construction equipment that would be used for site preparation and construction of the Proposed Action (Rimpo 2007).

The Department of the Navy concludes that the conformity *de minimis* levels for applicable criteria pollutants would not be exceeded as a result of implementation of the Proposed Action, and therefore, the Proposed Action is exempt from a formal conformity determination. The applicable emissions of the Proposed Action and the corresponding *de minimis* levels supporting that conclusion are shown in Table 2. The emissions data in Table 2 summarizes the calculations, methodology, data, and references of the conformity analysis included in the EIS for construction and operation of the Proposed Action. Therefore, the Department of the Navy concludes that further formal Conformity Determination procedures are not required, resulting in this RONA.

RONA APPROVAL

To the best of my knowledge, the information presented in this RONA is correct and accurate and I concur in the finding that the Proposed Action is not subject to the General Conformity Rule.

C. E. Sund, Captain U.S. Navy
Naval Base Coronado, Commanding Officer

11 Feb 2015
Date

REFERENCES

Rimpo Associates (Rimpo)

2007 *URBEMIS 2007 for Windows, Version 9.2.4.* Available at http://www.urbemis.com/software/Urbemis2007v9_4.html.

U.S. Department of the Navy (U.S. Navy)

2014 *Navy Guidance for Compliance with Clean Air Act General Conformity Rule*, Reference (d), Environmental Readiness Program Manual, OPNAV M-5090.1. 10 January.

1/30/2014 6:03:37 PM

Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: C:\a PROJECTS\NBC Coastal Campus EIS (SSTC-south)\2014\SSTC-South 2015 Alt 1.urb924

Project Name: Alt 1

Project Location: Orange County

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2015	1.97	2.49	2.34	0.00	1.36	0.14	1.50	0.29	0.13	0.42	456.47
Demolition 01/01/2015-12/31/2015	0.12	0.84	0.69	0.00	0.22	0.05	0.27	0.05	0.05	0.09	138.35
Fugitive Dust	0.00	0.00	0.00	0.00	0.17	0.00	0.17	0.03	0.00	0.03	0.00
Demo Off Road Diesel	0.10	0.72	0.55	0.00	0.00	0.05	0.05	0.00	0.04	0.04	91.39
Demo On Road Diesel	0.01	0.12	0.04	0.00	0.00	0.00	0.01	0.00	0.00	0.00	30.73
Demo Worker Trips	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	16.23
Mass Grading 02/01/2015-04/01/2015	0.05	0.38	0.24	0.00	0.74	0.02	0.76	0.15	0.02	0.17	50.99
Mass Grading Dust	0.00	0.00	0.00	0.00	0.74	0.00	0.74	0.15	0.00	0.15	0.00
Mass Grading Off Road Diesel	0.05	0.38	0.22	0.00	0.00	0.02	0.02	0.00	0.02	0.02	48.32
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.67

Fine Grading 04/01/2015-05/01/2015	0.03	0.20	0.13	0.00	0.40	0.01	0.41	0.08	0.01	0.09	27.27
Fine Grading Dust	0.00	0.00	0.00	0.00	0.40	0.00	0.40	0.08	0.00	0.08	0.00
Fine Grading Off Road Diesel	0.03	0.20	0.12	0.00	0.00	0.01	0.01	0.00	0.01	0.01	25.84
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.43
Trenching 05/01/2015-06/15/2015	0.02	0.19	0.14	0.00	0.00	0.01	0.01	0.00	0.01	0.01	29.42
Trenching Off Road Diesel	0.02	0.19	0.13	0.00	0.00	0.01	0.01	0.00	0.01	0.01	27.43
Trenching Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.99
Asphalt 06/01/2015-06/01/2015	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.07
Paving Off-Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.64
Paving On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.31
Paving Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12
Building 06/01/2015-12/01/2015	0.18	0.87	1.13	0.00	0.00	0.05	0.06	0.00	0.05	0.05	206.08
Building Off Road Diesel	0.16	0.79	0.64	0.00	0.00	0.05	0.05	0.00	0.05	0.05	107.00
Building Vendor Trips	0.01	0.06	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.29
Building Worker Trips	0.01	0.02	0.44	0.00	0.00	0.00	0.01	0.00	0.00	0.00	78.79
Coating 11/01/2015-12/31/2015	1.57	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.28
Architectural Coating	1.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.28

Phase Assumptions

Phase: Demolition 1/1/2015 - 12/31/2015 - Default Demolition Description

Building Volume Total (cubic feet): 800000

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Building Volume Daily (cubic feet): 4000

On Road Truck Travel (VMT): 55.56

Off-Road Equipment:

1 Concrete/Industrial Saws (10 hp) operating at a 0.73 load factor for 8 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 1 hours per day

2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 6 hours per day

Phase: Fine Grading 4/1/2015 - 5/1/2015 - Default Fine Site Grading/Excavation Description

Total Acres Disturbed: 6.89

Maximum Daily Acreage Disturbed: 1.72

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Mass Grading 2/1/2015 - 4/1/2015 - Default Mass Site Grading/Excavation Description

Total Acres Disturbed: 6.89

Maximum Daily Acreage Disturbed: 1.72

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Trenching 5/1/2015 - 6/15/2015 - Default Trenching Description

Off-Road Equipment:

2 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

1 Other General Industrial Equipment (238 hp) operating at a 0.51 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 0 hours per day

Phase: Paving 6/1/2015 - 6/1/2015 - Default Paving Description

Acres to be Paved: 1.72

Off-Road Equipment:

4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day

1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day

1 Paving Equipment (104 hp) operating at a 0.53 load factor for 8 hours per day

1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

Phase: Building Construction 6/1/2015 - 12/1/2015 - Default Building Construction Description

Off-Road Equipment:

1 Cranes (399 hp) operating at a 0.43 load factor for 6 hours per day

2 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day

1 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

3 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

Phase: Architectural Coating 11/1/2015 - 12/31/2015 - Default Architectural Coating Description

Rule: Residential Interior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 100

Rule: Residential Interior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 50

Rule: Residential Exterior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 250

Rule: Residential Exterior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 100

Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

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Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Mitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2015	1.97	2.49	2.34	0.00	1.36	0.14	1.50	0.29	0.13	0.42	456.47
Demolition 01/01/2015-12/31/2015	0.12	0.84	0.69	0.00	0.22	0.05	0.27	0.05	0.05	0.09	138.35
Fugitive Dust	0.00	0.00	0.00	0.00	0.17	0.00	0.17	0.03	0.00	0.03	0.00
Demo Off Road Diesel	0.10	0.72	0.55	0.00	0.00	0.05	0.05	0.00	0.04	0.04	91.39
Demo On Road Diesel	0.01	0.12	0.04	0.00	0.00	0.00	0.01	0.00	0.00	0.00	30.73
Demo Worker Trips	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	16.23
Mass Grading 02/01/2015-04/01/2015	0.05	0.38	0.24	0.00	0.74	0.02	0.76	0.15	0.02	0.17	50.99
Mass Grading Dust	0.00	0.00	0.00	0.00	0.74	0.00	0.74	0.15	0.00	0.15	0.00
Mass Grading Off Road Diesel	0.05	0.38	0.22	0.00	0.00	0.02	0.02	0.00	0.02	0.02	48.32
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.67
Fine Grading 04/01/2015-05/01/2015	0.03	0.20	0.13	0.00	0.40	0.01	0.41	0.08	0.01	0.09	27.27
Fine Grading Dust	0.00	0.00	0.00	0.00	0.40	0.00	0.40	0.08	0.00	0.08	0.00
Fine Grading Off Road Diesel	0.03	0.20	0.12	0.00	0.00	0.01	0.01	0.00	0.01	0.01	25.84
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.43

Trenching 05/01/2015-06/15/2015	0.02	0.19	0.14	0.00	0.00	0.01	0.01	0.00	0.01	0.01	29.42
Trenching Off Road Diesel	0.02	0.19	0.13	0.00	0.00	0.01	0.01	0.00	0.01	0.01	27.43
Trenching Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.99
Asphalt 06/01/2015-06/01/2015	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.07
Paving Off-Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.64
Paving On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.31
Paving Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12
Building 06/01/2015-12/01/2015	0.18	0.87	1.13	0.00	0.00	0.05	0.06	0.00	0.05	0.05	206.08
Building Off Road Diesel	0.16	0.79	0.64	0.00	0.00	0.05	0.05	0.00	0.05	0.05	107.00
Building Vendor Trips	0.01	0.06	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.29
Building Worker Trips	0.01	0.02	0.44	0.00	0.00	0.00	0.01	0.00	0.00	0.00	78.79
Coating 11/01/2015-12/31/2015	1.57	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.28
Architectural Coating	1.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.28

Construction Related Mitigation Measures

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Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.01	0.18	0.15	0.00	0.00	0.00	219.00
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscape	0.02	0.00	0.28	0.00	0.00	0.00	0.51
Consumer Products	0.00						
Architectural Coatings	0.16						
TOTALS (tons/year, unmitigated)	0.19	0.18	0.43	0.00	0.00	0.00	219.51

Area Source Mitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Annual Tons Per Year, Mitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.01	0.18	0.15	0.00	0.00	0.00	219.00
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscape	0.02	0.00	0.28	0.00	0.00	0.00	0.51
Consumer Products	0.00						
Architectural Coatings	0.16						
TOTALS (tons/year, mitigated)	0.19	0.18	0.43	0.00	0.00	0.00	219.51

Area Source Mitigation Measures Selected

Mitigation Description	Percent Reduction

Area Source Changes to Defaults

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Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Goverment office building	0.42	0.85	3.31	0.00	0.06	0.04	478.34
TOTALS (tons/year, unmitigated)	0.42	0.85	3.31	0.00	0.06	0.04	478.34

Operational Mitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Annual Tons Per Year, Mitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Goverment office building	0.42	0.85	3.31	0.00	0.06	0.04	478.34
TOTALS (tons/year, mitigated)	0.42	0.85	3.31	0.00	0.06	0.04	478.34

Operational Mitigation Options Selected

Residential Mitigation Measures

Nonresidential Mitigation Measures

Non-Residential Local-Serving Retail Mitigation

Percent Reduction in Trips is 0%

Inputs Selected:

The Presence of Local-Serving Retail checkbox was NOT selected.

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

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Analysis Year: 2015 Season: Annual

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Goverment office building		2.00	1000 sq ft	150.00	300.00	2,779.50
					300.00	2,779.50

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	80.0	0.2	99.6	0.2
Light Truck < 3750 lbs	10.0	0.0	98.6	1.4
Light Truck 3751-5750 lbs	0.0	0.0	100.0	0.0
Med Truck 5751-8500 lbs	0.0	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	0.0	0.0	82.4	17.6
Lite-Heavy Truck 10,001-14,000 lbs	0.0	0.0	60.0	40.0
Med-Heavy Truck 14,001-33,000 lbs	0.0	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	0.0	0.0	0.0	100.0
Other Bus	0.0	0.0	0.0	100.0
Urban Bus	0.0	0.0	0.0	0.0
Motorcycle	5.0	51.7	48.3	0.0
School Bus	5.0	0.0	0.0	100.0
Motor Home	0.0	0.0	87.5	12.5

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Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	12.7	7.0	9.5	13.3	7.4	8.9
Rural Trip Length (miles)	17.6	12.1	14.9	15.4	9.6	12.6
Trip speeds (mph)	30.0	30.0	30.0	30.0	30.0	30.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Goverment office building				10.0	5.0	85.0

Operational Changes to Defaults

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Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: C:\a PROJECTS\NBC Coastal Campus EIS (SSTC-south)\2014\SSTC-South 2015 Alt 2.urb924

Project Name: Alt 2

Project Location: Orange County

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2015	1.96	2.38	2.30	0.00	1.16	0.14	1.30	0.24	0.13	0.37	428.81
Demolition 01/01/2015-12/31/2015	0.11	0.73	0.65	0.00	0.02	0.05	0.07	0.00	0.04	0.05	110.69
Fugitive Dust	0.00	0.00	0.00	0.00	0.02	0.00	0.02	0.00	0.00	0.00	0.00
Demo Off Road Diesel	0.10	0.72	0.55	0.00	0.00	0.05	0.05	0.00	0.04	0.04	91.39
Demo On Road Diesel	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.07
Demo Worker Trips	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	16.23
Mass Grading 02/01/2015-04/01/2015	0.05	0.38	0.24	0.00	0.74	0.02	0.76	0.15	0.02	0.17	50.99
Mass Grading Dust	0.00	0.00	0.00	0.00	0.74	0.00	0.74	0.15	0.00	0.15	0.00
Mass Grading Off Road Diesel	0.05	0.38	0.22	0.00	0.00	0.02	0.02	0.00	0.02	0.02	48.32
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.67

Fine Grading 04/01/2015-05/01/2015	0.03	0.20	0.13	0.00	0.40	0.01	0.41	0.08	0.01	0.09	27.27
Fine Grading Dust	0.00	0.00	0.00	0.00	0.40	0.00	0.40	0.08	0.00	0.08	0.00
Fine Grading Off Road Diesel	0.03	0.20	0.12	0.00	0.00	0.01	0.01	0.00	0.01	0.01	25.84
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.43
Trenching 05/01/2015-06/15/2015	0.02	0.19	0.14	0.00	0.00	0.01	0.01	0.00	0.01	0.01	29.42
Trenching Off Road Diesel	0.02	0.19	0.13	0.00	0.00	0.01	0.01	0.00	0.01	0.01	27.43
Trenching Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.99
Asphalt 06/01/2015-06/01/2015	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.07
Paving Off-Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.64
Paving On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.31
Paving Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12
Building 06/01/2015-12/01/2015	0.18	0.87	1.13	0.00	0.00	0.05	0.06	0.00	0.05	0.05	206.08
Building Off Road Diesel	0.16	0.79	0.64	0.00	0.00	0.05	0.05	0.00	0.05	0.05	107.00
Building Vendor Trips	0.01	0.06	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.29
Building Worker Trips	0.01	0.02	0.44	0.00	0.00	0.00	0.01	0.00	0.00	0.00	78.79
Coating 11/01/2015-12/31/2015	1.57	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.28
Architectural Coating	1.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.28

Phase Assumptions

Phase: Demolition 1/1/2015 - 12/31/2015 - Default Demolition Description

Building Volume Total (cubic feet): 100000

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Building Volume Daily (cubic feet): 400

On Road Truck Travel (VMT): 5.56

Off-Road Equipment:

1 Concrete/Industrial Saws (10 hp) operating at a 0.73 load factor for 8 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 1 hours per day

2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 6 hours per day

Phase: Fine Grading 4/1/2015 - 5/1/2015 - Default Fine Site Grading/Excavation Description

Total Acres Disturbed: 6.89

Maximum Daily Acreage Disturbed: 1.72

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Mass Grading 2/1/2015 - 4/1/2015 - Default Mass Site Grading/Excavation Description

Total Acres Disturbed: 6.89

Maximum Daily Acreage Disturbed: 1.72

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Trenching 5/1/2015 - 6/15/2015 - Default Trenching Description

Off-Road Equipment:

2 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

1 Other General Industrial Equipment (238 hp) operating at a 0.51 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 0 hours per day

Phase: Paving 6/1/2015 - 6/1/2015 - Default Paving Description

Acres to be Paved: 1.72

Off-Road Equipment:

4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day

1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day

1 Paving Equipment (104 hp) operating at a 0.53 load factor for 8 hours per day

1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

Phase: Building Construction 6/1/2015 - 12/1/2015 - Default Building Construction Description

Off-Road Equipment:

1 Cranes (399 hp) operating at a 0.43 load factor for 6 hours per day

2 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day

1 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

3 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

Phase: Architectural Coating 11/1/2015 - 12/31/2015 - Default Architectural Coating Description

Rule: Residential Interior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 100

Rule: Residential Interior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 50

Rule: Residential Exterior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 250

Rule: Residential Exterior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 100

Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

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Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Mitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2015	1.96	2.38	2.30	0.00	1.16	0.14	1.30	0.24	0.13	0.37	428.81
Demolition 01/01/2015-12/31/2015	0.11	0.73	0.65	0.00	0.02	0.05	0.07	0.00	0.04	0.05	110.69
Fugitive Dust	0.00	0.00	0.00	0.00	0.02	0.00	0.02	0.00	0.00	0.00	0.00
Demo Off Road Diesel	0.10	0.72	0.55	0.00	0.00	0.05	0.05	0.00	0.04	0.04	91.39
Demo On Road Diesel	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.07
Demo Worker Trips	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	16.23
Mass Grading 02/01/2015-04/01/2015	0.05	0.38	0.24	0.00	0.74	0.02	0.76	0.15	0.02	0.17	50.99
Mass Grading Dust	0.00	0.00	0.00	0.00	0.74	0.00	0.74	0.15	0.00	0.15	0.00
Mass Grading Off Road Diesel	0.05	0.38	0.22	0.00	0.00	0.02	0.02	0.00	0.02	0.02	48.32
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.67
Fine Grading 04/01/2015-05/01/2015	0.03	0.20	0.13	0.00	0.40	0.01	0.41	0.08	0.01	0.09	27.27
Fine Grading Dust	0.00	0.00	0.00	0.00	0.40	0.00	0.40	0.08	0.00	0.08	0.00
Fine Grading Off Road Diesel	0.03	0.20	0.12	0.00	0.00	0.01	0.01	0.00	0.01	0.01	25.84
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.43

Trenching 05/01/2015-06/15/2015	0.02	0.19	0.14	0.00	0.00	0.01	0.01	0.00	0.01	0.01	29.42
Trenching Off Road Diesel	0.02	0.19	0.13	0.00	0.00	0.01	0.01	0.00	0.01	0.01	27.43
Trenching Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.99
Asphalt 06/01/2015-06/01/2015	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.07
Paving Off-Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.64
Paving On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.31
Paving Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12
Building 06/01/2015-12/01/2015	0.18	0.87	1.13	0.00	0.00	0.05	0.06	0.00	0.05	0.05	206.08
Building Off Road Diesel	0.16	0.79	0.64	0.00	0.00	0.05	0.05	0.00	0.05	0.05	107.00
Building Vendor Trips	0.01	0.06	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.29
Building Worker Trips	0.01	0.02	0.44	0.00	0.00	0.00	0.01	0.00	0.00	0.00	78.79
Coating 11/01/2015-12/31/2015	1.57	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.28
Architectural Coating	1.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.28

Construction Related Mitigation Measures

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Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.01	0.18	0.15	0.00	0.00	0.00	219.00
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscape	0.02	0.00	0.28	0.00	0.00	0.00	0.51
Consumer Products	0.00						
Architectural Coatings	0.16						
TOTALS (tons/year, unmitigated)	0.19	0.18	0.43	0.00	0.00	0.00	219.51

Area Source Mitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Annual Tons Per Year, Mitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.01	0.18	0.15	0.00	0.00	0.00	219.00
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscape	0.02	0.00	0.28	0.00	0.00	0.00	0.51
Consumer Products	0.00						
Architectural Coatings	0.16						
TOTALS (tons/year, mitigated)	0.19	0.18	0.43	0.00	0.00	0.00	219.51

Area Source Mitigation Measures Selected

Mitigation Description	Percent Reduction

Area Source Changes to Defaults

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Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Goverment office building	0.42	0.85	3.31	0.00	0.06	0.04	478.34
TOTALS (tons/year, unmitigated)	0.42	0.85	3.31	0.00	0.06	0.04	478.34

Operational Mitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Annual Tons Per Year, Mitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Goverment office building	0.42	0.85	3.31	0.00	0.06	0.04	478.34
TOTALS (tons/year, mitigated)	0.42	0.85	3.31	0.00	0.06	0.04	478.34

Operational Mitigation Options Selected

Residential Mitigation Measures

Nonresidential Mitigation Measures

Non-Residential Local-Serving Retail Mitigation

Percent Reduction in Trips is 0%

Inputs Selected:

The Presence of Local-Serving Retail checkbox was NOT selected.

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

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Analysis Year: 2015 Season: Annual

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Goverment office building		2.00	1000 sq ft	150.00	300.00	2,779.50
					300.00	2,779.50

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	80.0	0.2	99.6	0.2
Light Truck < 3750 lbs	10.0	0.0	98.6	1.4
Light Truck 3751-5750 lbs	0.0	0.0	100.0	0.0
Med Truck 5751-8500 lbs	0.0	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	0.0	0.0	82.4	17.6
Lite-Heavy Truck 10,001-14,000 lbs	0.0	0.0	60.0	40.0
Med-Heavy Truck 14,001-33,000 lbs	0.0	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	0.0	0.0	0.0	100.0
Other Bus	0.0	0.0	0.0	100.0
Urban Bus	0.0	0.0	0.0	0.0
Motorcycle	5.0	51.7	48.3	0.0
School Bus	5.0	0.0	0.0	100.0
Motor Home	0.0	0.0	87.5	12.5

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Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	12.7	7.0	9.5	13.3	7.4	8.9
Rural Trip Length (miles)	17.6	12.1	14.9	15.4	9.6	12.6
Trip speeds (mph)	30.0	30.0	30.0	30.0	30.0	30.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Goverment office building				10.0	5.0	85.0

Operational Changes to Defaults

APPENDIX C

BIOLOGICAL RESOURCES

C-1

2012 RARE PLANT SURVEY REPORT

AECOM
1420 Kettner Boulevard
Suite 500
San Diego, CA 92101
www.aecom.com

619.233.1454 tel
619.233.0952 fax

October 1, 2012

Subject: 2012 Rare Plant Survey Report for Silver Strand Training Complex-South, Naval Base Coronado, Sand Diego County, California

Introduction and Project Description

Botanical surveys were conducted at SSTC-S in the spring of 2012 within the Naval Base Coronado (NBC) Coastal Campus project area, located within the Silver Strand Training Complex-South (SSTC-S). Surveys were conducted on behalf of the Department of the Navy (Navy), Naval Facilities Engineering Command, Southwest.

The Navy is proposing the construction and upgrade of utilities and infrastructure to support Naval Special Warfare (NSW) Command's (NSWC) current and future operational readiness. This would involve construction of a coastal campus on SSTC-S known as the NBC Coastal Campus (the project). Specifically, the project would provide adequate facilities to support mandated force growth within NSW on the west coast and would maintain the required levels of operational readiness of special warfare forces, as mandated by 10 U.S. Code Section 5062. The project would meet the need of these requirements through the development of required facilities and space for NSW logistics, operations, training, and administrative functions that would allow NBC to support NSWC's fluctuating organizational structure and mandated mission requirements.

The project would involve consolidation of the necessary NSWC facilities in one location at SSTC-S; development and construction (using sustainable design principles) of operations buildings, training and administrative facilities, utilities, fencing, roads, and parking; and construction of a new controlled entry point providing immediate access from State Route 75 (SR-75).

The project would also create a dense, walkable development supported by highly efficient energy, water, and wastewater infrastructure facilities designed and oriented on a campus or district level. By integrating the design of these major utility systems, greater energy use efficiencies would result. Additionally, the campus design would incorporate renewable energy features such as solar electric photovoltaics and hot-water-producing solar thermal panels.

Two federally listed species including Salt Marsh bird's beak (*Chloropyron maritimum* ssp. *maritimum*) and Coast dune milk vetch (*Astragalus tener* var. *titi*) and other nonfederally listed special status species are known to occur on or in the vicinity of SSTC-S.

Site Description

The approximately 154-acre project area is located within SSTC-S, San Diego County, California. SSTC-S extends approximately 1.3 nautical miles along the Pacific Coast and encompasses approximately 548 acres of land owned by the federal government (down to the high tide line). SSTC-S is located north of and adjacent to the City of Imperial Beach. The west side is adjacent to the Pacific Ocean and the east side is adjacent to SR-75 and San Diego Bay. Elevations across the project area range from 15 feet above mean sea level

(MSL) to 64 feet above MSL. Part of SSTC-S is leased to the Young Men's Christian Association (YMCA) for a surf camp (known as the YMCA Camp Surf), which is located in the southwest corner of SSTC-S. Additional Navy-owned land on the east side of SR-75 that is part of SSTC-S is included in the South Bay Marine Biological Study Area.

To provide for an appropriate environmental analysis, a Biological Study Area (BSA) was established for biological resources that are of importance or that are protected under federal law or statute. The BSA for rare plant surveys and vegetation mapping includes all areas west of SR-75 on SSTC-South, excluding the YMCA Camp Surf and beach habitat. In general, the BSA does not include a buffer outside of or around SSTC-South because either open water or urban development surrounds SSTC-South. Botanists focused on the project area within the BSA which encompasses approximately 154 acres, while the entire BSA encompasses approximately 439 acres.

Methods

Prior to field investigations, the following resources were reviewed to determine species potential to occur on SSTC-S:

- NBC Integrated Natural Resources Management Plan (NBC INRMP) (U.S. Navy 2002a);
- Final Biological Resources Survey Report for the Naval Radio Receiving Facility, Naval Base Coronado, San Diego, California (RECON 2004);
- Silver Strand Training Complex Environmental Impact Statement (SSTC EIS) (U.S. Navy 2011b);
- California Department of Fish and Game (CDFG) California Natural Diversity Database (CNDDB) (CDFG 2012); and
- USFWS Special-Status Species Database (2012).

Rare plant surveys and vegetation mapping was conducted by AECOM botanists Jonathan Dunn, Fred Sproul and Lance Woolley. Field work was done February 29, March 12, March 16, 2012 with follow-up surveys for specific plant species on July 12. The 154 acre project area was walked comparing and recording current vegetation with previous mapping. The scope of the survey included mostly the northern half of the SSTC-S site although observations were made for vegetation mapping and sensitive plants on the entire proposed project area. Vegetation mapping was conducted using the Holland (1986) classification system with reference to the California Manual of Vegetation – 2nd Edition (2009). Significant plant species and habitats were checked for their current status for the entire 439 acre SSTC-S area. All plant species were recorded or noted for later identification. Sensitive plants were documented and mapped with Arc GIS 10 on a Toughbook field computer. Plant identification followed the Jepson Manual Second Edition (Baldwin et al 2012). Reference sites were visited at Silver Strand State Beach and Sweetwater National Wildlife Refuge for Brand's Phacelia (*Phacelia stellaris*), coast woolly-heads (*Nemacaulis denudata* ssp. *denudata*) and Nuttall's lotus (*Acmispon prostrata*). Table 1 below lists the survey dates and personnel who conducted rare plant and vegetation mapping on SSTC-S.

Table 1. Survey Dates and Personnel

Survey Number	Survey Date	Surveyor(s)
1	02/29/2012	Jonathan Dunn, Lance Woolley, Fred Sproul
2	03/12/2012	Lance Woolley, Fred Sproul
3	03/16/2012	Lance Woolley, Fred Sproul
4	07/12/2012	Fred Sproul

Results

Results of this literature search are presented in Table 2, which lists the federally or state listed plants that potentially occur at SSTC-S and Table 3, which lists the nonfederally listed rare plants that potentially occur at SSTC-S.

Table 2. Federally or State Listed Plants Potentially Present at SSTC-S

Scientific Name	Common Name	Fed/State/ Status[1]	Habitat	Presence or potential to Occur within BSA
Ambrosia pumila	San Diego ambrosia	FE	chaparral, coastal scrub, valley and foothill grassland.	Moderate – Habitat present coastal scrub, known from National City
Astragalus tener var. *titi*	coastal dunes milk-vetch	FE/CE	coastal bluff scrub, coastal dunes.	Moderate – Habitat present coastal dunes, was known from Silver Strand at SSTC-N; last collected 1938, presumed extirpated
Chloropyron maritimum ssp. *maritimum* (formerly: *Cordylanthus m. m.*)	salt marsh bird's-beak	FE/CE	coastal salt marsh, coastal dunes.	High – Habitat present salt marsh, known from Tijuana estuary, Sweetwater River, known from YMCA Camp Surf at SSTC-S (RECON 2004)
Eryngium aristulatum var. *parishii*	San Diego button-celery	FE/CE	vernal pools, coastal scrub, valley and foothill grassland.	Not expected – Habitat present vernal pools, known from Otay Mesa
Hazardia orcuttii	Orcutt's hazardia	CT	chaparral, coastal scrub.	Low – Habitat present coastal scrub, known only from Encinitas, but frequent in Northern Baja California, Mexico
Navarretia fossalis	Moran's nosegay	FT	vernal pools, chenopod scrub, marshes and swamps, playas.	Not expected – Habitat present vernal pools, known from Otay Mesa
Orcuttia californica	California Orcutt grass	FE/CE	vernal pools.	Not expected – Habitat present vernal pools, known from Otay Mesa

Scientific Name	Common Name	Fed/State/ Status[1]	Habitat	Presence or potential to Occur within BSA
Pogogyne abramsii	San Diego mesa mint	FE/CE	vernal pools.	Not expected – Habitat present vernal pools, known from Kearney Mesa
Pogogyne nudiuscula	Otay Mesa mint	FE/CE	vernal pools.	Not expected – Habitat present vernal pools, known from Otay Mesa

Status derived from the California Natural Diversity Data Base maintained by the California Dept. of Fish and Game http://www.dfg.ca.gov/biogeodata/), and the CNPS's Inventory of Rare and Endangered Plants of California (online address: http://cnps.site.aplus.net/cgi-bin/inv/invetory.cgi/Home).

[1]Federal Endangered Species Act (FESA)
FE=Federal Endangered
FT=Federal Threatened
FC=Federal Candidate Species
FPT=Federal Proposed for listing as Threatened
FSC=Federal Species of Concern

California Endangered Species Act (CESA)
CE=California Endangered
CT=California Threatened
CC=California Candidate
CSC=California Special Concern Species
CDFG fully protected=Species may not be taken without permit from Fish and Game Commission
D=Delisted

Table 3. Nonfederally Listed Rare Plants with CNPS Special Status Potentially Present at SSTC-S

Scientific Name	Common Name	CNPS Status[1]	Habitat	Presence or potential to Occur within BSA
Abronia maritima	red sand verbena	4.2	coastal strand, sand dunes	High – Present in sand dunes within SSTC-S outside of BSA.
Acmispon prostrata (formerly: Lotus nuttallianus)	Nuttall's lotus	1B.1	coastal dunes, coastal scrub	Present at SSTC-S within both Alternatives 1 and 2 within BSA
Aphanisma blitoides	aphanisma	1B.2	coastal bluff scrub, coastal dunes, coastal scrub	Moderate – Habitat present coastal scrub, was known from Silver Strand
Atriplex coulteri	Coulter's saltbush	1B.2	coastal bluff scrub, coastal dunes, coastal scrub, valley and foothill grassland	Moderate – Habitat present coastal dunes, was known from Silver Strand
Atriplex pacifica	South Coast saltscale	1B.2	coastal scrub, coastal bluff scrub, playas, chenopod scrub.	Moderate – Habitat present coastal scrub, known from Tijuana River, Otay Mesa
Atriplex serenana var. *davidsonii*	Davidson's saltscale	1B.2	coastal bluff scrub, coastal scrub	Moderate – Habitat present coastal scrub, reported Tijuana River, San Miguel Mt.- unverified

Scientific Name	Common Name	CNPS Status[1]	Habitat	Presence or potential to Occur within BSA
Bahiopsis laciniata (formerly *Vigueira laciniata*)	San Diego sunflower	4.2	chaparral, coastal sage scrub	Moderate –Present at SSTC-S east of Hwy 75, occurs throughout Otay, Mesa, San Diego, Chula Vista not within project area
Bergerocactus emoryi	golden-spined cereus	2.2	coastal scrub, sometimes chaparral margins	Moderate – Habitat present Maritime Succulent Scrub, known from Otay Mesa, Telegraph Canyon
Bloomeria clevelandii	San Diego goldenstar	1B.1	chaparral, coastal scrub, valley and foothill grassland, vernal pools	Moderate – Habitat present upland CSS, known from Otay Mesa
Brodiaea orcuttii	Orcutt's brodiaea	1B.1	vernal pools, valley and foothill grassland, closed-cone coniferous forest, cismontane woodland, chaparral, meadows	Not expected – Habitat present vernal pools, known from Otay Mesa
Cistanthe maritima (formerly: Calandrinia m.)	Sea kisses	4.2	coastal bluff, coastal scrub, valley an foothill grassland	Moderate – Habitat present coastal scrub, known from Chula Vista, National City, Point Loma
Camissonoipsis lewisii (formerly: Camissonia lewisii)	Lewis's evening-primrose	3	coastal bluff scrub, dunes, Valley and foothill grassland, cismontane woodland	High – Habitat present coastal scrub, known from Silver Strand, Imperial Beach, National City, Point Loma, Mission Bay
Centromadia parryi ssp. *australis*	southern tarplant	1B.1	marshes and swamps (margins), valley and foothill grassland	Low – Habitat present seasonally wet alkaline seeps, vernal pools, known from Ramona, Escondido, Del Mar
Centromadia pungens ssp. *laevis*	smooth tarplant	1B.1	Meadows and seeps (often alkaline), playas, riparian woodland, valley and foothill grassland	Low – Habitat present seasonally wet alkaline seeps, vernal pools, known from Santee, Escondido, Camp Pendleton
Chaenactis glabriuscula var. *orcuttiana*	Orcutt's pincushion	1B.1	coastal bluff scrub, coastal dunes	Present at SSTC-S within both Alternatives 1 and 2 within BSA (RECON 2004)
Chorizanthe polygonoides var. l*ongispina*	long-spined spineflower	1B.2	chaparral, coastal scrub, meadows, valley and foothill grassland	Low – Habitat marginally present upland CSS, known from H Street, Chula Vista
Cylindropuntia californica var. *californica* (formerly: *Opuntia c. c.*)	snake cholla	1B.1	chaparral, coastal scrub.	Moderate – Habitat present Maritime Succulent Scrub, known from Silver Strand, National City, San Diego, Telegraph Canyon, Border Monument, Point Loma
Dicranostegia orcuttiana (formerly: *Cordylanthus o.*)	Orcutt's bird's-beak	2.1	coastal scrub	Low – Habitat marginally present coastal scrub, alluvial wash, known from Otay Valley

Scientific Name	Common Name	CNPS Status[1]	Habitat	Presence or potential to Occur within BSA
Dudleya attenuata ssp. *orcuttii*	Orcutt's dudleya	2.1	coastal scrub, coastal bluff scrub, chaparral	Moderate – Habitat present coastal scrub, known from Border Field State Park (Tijuana River Valley)
Dudleya variegata	variegated dudleya	1B.2	chaparral, coastal scrub, cismontane woodland, valley and foothill grassland	Present at SSTC-S within both Alternatives 1 and 2 within BSA (RECON 2004)
Erysimum ammophilum	sand-loving wallflower	1B.2	chaparral (maritime), coastal dunes, coastal scrub	Low – Habitat present coastal dunes, known from Torrey Pines State Park
Euphorbia misera	cliff spurge	2.2	coastal scrub	Moderate- Habitat present coastal scrub, known from Point Loma, Tijuana hills
Ferocactus viridescens	San Diego barrel cactus	2.1	chaparral, Diegan coastal scrub, valley and foothill grassland	Present at SSTC-S within both Alternatives 1 and 2 within BSA (RECON 2004)
Frankenia palmeri	Palmer's frankenia	2.1	coastal dunes, marshes (coastal salt), playas	High - Habitat present high salt marsh, known from Sweetwater Marsh, Tijuana slough
Harpagonella palmeri	Palmer's grappling-hook	4.2	chaparral, coastal scrub, valley and foothill grassland	Low – Habitat present herbaceous openings in coastal scrub, known from Otay Mesa
Heterotheca sessiliflora ssp. *sessiliflora*	beach goldenaster	1B.1	coastal dunes, coastal scrub, chaparral (coastal)	High – Habitat present coastal scrub, known from several sites in Chula Vista adjacent to SD Bay, Sweetwater Marsh
Juncus acutus ssp. *leopoldii*	Southwestern spiny rush	4.2	coastal and desert dunes, wetlands especially alkaline	Present in dunes and salt marsh; within BSA (outside of Alternatives 1 and 2)
Isocoma menziesii var. *decumbens*	decumbent goldenbush	1B.2	coastal scrub	High – Habitat present coastal scrub, known from salt marsh at Imperial Beach, H Street in Chula Vista
Lasthenia glabrata ssp. *coulteri*	Coulter's goldfields	1B.1	tidal salt marshes, playas, valley and foothill grassland, vernal pools	High – Habitat present salt marsh, known from mouth of Sweetwater River, Tijuana estuary
Lepidium virginicum var. r*obinsonii*	Robinson's pepper-grass	1B.2	chaparral, coastal scrub	Moderate – Habitat present coastal scrub, known from Border Field State Park, east Chula Vista
Leptosyne maritima (formerly*: Coreopsis m.*)	sea dahlia	2.2	coastal scrub, coastal bluff scrub	Moderate - Habitat present coastal scrub, known from Naval Outlying Field Imperial Beach, Silver Strand
Lycium californicum	California box-thorn	4.2	coastal bluff scrub, coastal sage scrub	Present at SSTC-S within both Alternatives 1 and 2 within BSA

Scientific Name	Common Name	CNPS Status[1]	Habitat	Presence or potential to Occur within BSA
Myosurus minimus ssp. *apus*	little mousetail	3.1	vernal pools	Not expected – Habitat not present veral pools, known from Otay Mesa
Nama stenocarpum	mud nama	2.2	marshes and swamps	Not expected – Habitat marginally present, known from Sweetwater Reservoir, Bonita
Navarretia prostrata	prostrate vernal pool navarretia	1B.1	coastal scrub, valley and foothill grassland, vernal pools	Not expected – Habitat present vernal pools, known from Otay Mesa
Nemacaulis denudata var. *denudata*	coast woolly-heads	1B.2	coastal dunes	Present at SSTC-S, present in coastal dunes within BSA (outside of Alternatives 1 and 2)
Orobanche parishii ssp. *brachyloba*	short-lobed broomrape	4.2	coastal bluff scrub, coastal dunes, coastal scrub. Root parasite on *Isocoma menziesii*	Moderate – Habitat present host plant *Isocoma menziesii*, known from Pt. Loma, Silver Strand
Phacelia stellaris	Brand's phacelia	1B.1	coastal scrub, coastal dunes	High – habitat present, coastal dunes, known nearby from Silver Strand, Naval Amphibious Base Coronado, and Naval Air Station North Island
Senecio aphanactis	chaparral ragwort	2.2	cismontane woodland, coastal scrub, alkaline flats	Moderate – Habitat present alkaline flats, known from Silver Strand, Pacific Beach, Tijuana Hills
Stylocline citroleum	oil neststraw	1B.1	chenopod scrub, coastal scrub	Not expected – Habitat present coastal scrub, known mostly from Kern County, one old record from San Diego 1883 presumed extirpated
Suaeda esteroa	estuary seablite	1B.2	marshes and swamps	Present at SSTC-S east of Hwy 75, not in BSA (RECON 2004)
Suaeda taxifolia	woolly seablite	4.2	marshes and swamps	Present at SSTC- east of Hwy 75, not in BSA (RECON 2004)

Status derived from the California Natural Diversity Data Base maintained by the California Dept. of Fish and Game http://www.dfg.ca.gov/biogeodata/), and the CNPS's Inventory of Rare and Endangered Plants of California (online address: http://cnps.site.aplus.net/cgi-bin/inv/invetory.cgi/Home).

California Native Plant Society
CNPS 1B=Rare or endangered in California and elsewhere
CNPS 2=Rare or endangered in California, more common elsewhere
CNPS 3=More information needed about this plant (Review List)
CNPS 4= Limited distribution (Watch List)

CNPS code extensions:
.1 – Seriously endangered in California
.2 – Fairly endangered in California
.3 – Not very endangered in California

The following section describes the various rare plants that occur within the BSA on SSTC-S.

Southwestern spiny rush (*Juncus acutus* var. *leopoldii*)

Southwestern spiny rush was observed in two locations. One site just east of the southern foredune habitat in the northwest corner and one site in the southwestern corner of SSTC-S north to the Wullenweber Antennae. These locations and approximate population size appears to be identical in locations and population to those reported in previous studies (RECON 2004, NBC INRMP 2002, U.S. Navy 2011b).

San Diego barrel cactus (*Ferocactus viridescens*)

San Diego barrel cactus was observed fairly abundant in one location mapped near the center of the SSTC-S site with some other succulent plant species in an area mapped as Maritime Succulent Scrub. A total of approximately 500 cacti occur in an area of approximately 5.0 acres. Most of these cacti are relatively old, no new plants were seen that were young recruits. Many plants had some damage to their stems from herbivory.

Variegated dudleya (*Dudleya variegata*)

Variegated dudleya was observed on February 29, 2012 in the center of an area where it had previously been mapped who had estimated at “thousands of individuals” (RECON 2004). At the current survey the plants were mostly very small rosettes of leaves that appeared to have germinated recently, a few had some elongated flower stalks and early flower buds. This location showed no more than approximately 100 plants, though the area where it had been previously mapped probably supported more colonies at that time. On the March 16 visit to this site, none of these plants were extant. It appeared that they had all be lost from herbivory, probably from rabbits, though it is assumed that the perennial roots remain and can regrow in the following year.

Nuttall’s lotus (*Acmispon prostratus* formerly *Lotus nuttallianus*)

Nuttall’s lotus was abundant, with vigorous growth and seed set and widespread in natural habitats such as southern foredunes, nonnative grassland and Diegan coastal sage scrub but especially in disturbed habitat in openings and around old concrete foundations where Hottentot fig was absent. Many thousands of plants occur in this area and throughout this area and in disturbed roadbeds and cleared areas mostly within the northern half of the SSTC-S.

Coast woolly-heads (*Nemacaulis denudata* var. *denudata*)

Coast woolly-heads occurs in loose sandy soil especially on the east side of the Southern Foredunes. It was frequent and relatively abundant on February 29 when many small rosettes of seedlings were evident before stem elongation and flowering. Each site that was mapped with a GPS represented approximately 50-100 plants.

Orcutt's pincushion (*Chaenactis glabriuscula var. orcuttiana)*

Orcutt's pincushion occurred in a small area on the lee side of the dunes near the center of the SSTC-S site, at a gate in the fence where there is access to the beach. The habitat is a very specific and limited microsite within the Southern Foredunes habitat that supports many native annual wildflowers including intermediate cryptantha (*Cryptantha intermedia*), coast woolly-heads (*Nemacaulis denudata* var. *denudata*), Lastarriaea (*Lastarriaea coriacea*), everlasting bedstraw (*Stylocline gnaphalioides*), Orcutt's pincushion (*Chaenactis glabriuscula* var. *orcuttiana*) and Nuttall's lotus (*Acmispon prostrata*). A few plants were flowering though most were still small vegetative rosettes. The total number of was less than 100 individuals.

Red sand-verbena (*Abronia maritima*)

Red sand-verbena occurs all along and throughout the Southern Foredunes. It is relatively abundant with many large colonies some of which had just begun to flower. Many thousands of individuals are represented in the dunes area, west of the SSTC-S fence.

California box-thorn (*Lycium californicum*)

Several individuals of California box-thorn occur scattered throughout the SSTC-S site.

Discussion

The SSTC-S site has been surveyed extensively in the current survey and during previous surveys that were reported in Tierra Data Inc. 2002, RECON 2004. The Southern foredunes habitat is some of the most intact of this habitat remaining in San Diego County even considering its encroachment by iceplant. Diegan coastal sage scrub that persists on the site is also unique in this portion of San Diego County. The small population of Orcutt's pincushion is one of the few places where it is known to occur in San Diego County.

Invasive plant species were also documented and significant infestations mapped.
The current botanical survey of SSTC-S documented a total of 104 plant species of which 42 are non-native which comprises 40% of the flora. Other sources for information on invasive plants have been the Integrated Resource Management Plan (2002) and a comprehensive resource inventory (RECON 2004). According to the current survey and these references several of these plants are considered to be invasive and potentially problematic species. These include: Hottentot fig or iceplant (*Carpobrotus edulis and C. chilensis*), acacia (*Acacia* cyclops), castor bean (*Ricinus communis*), giant reed (*Arundo donax*), pampas grass (*Cortaderia selloana*), fountain grass (*Pennisetum setaceum*) sweet fennel (*Foeniculum vulgare*), salt cedar (*Tamarix* sp.) and eucalyptus (*Eucalyptus* spp.). Only Hottentot fig is considered problematic at SSTC-S where it currently has encroached natural plant habitat since its intentional introduction in the 1950s for soil stabilization. This invasive species currently limits several sensitive plant species of the Southern Foredunes habitat including: coast woolly-heads, Nuttall's lotus, Orcutt's pincushion and variegated dudleya. Measures to enhance native habitat and to address invasive plants are undertaken by the Navy as part of INRMP project planning (INRMP 2002). Hottentot fig or iceplant is the

most prevalent plant cover type of the entire SSTC-S site occupying approximately 170 acres of the SSTC-S site (EIS 2011).

Attached: CNDDB forms

Botanical References

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California Department of Fish and Game (CDFG). 2012. California Natural Diversity Database. http://www.dfg.ca.gov/biogeodata

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Holland, R. F. 1986. Preliminary descriptions of the terrestrial natural communities of California. Unpublished report. State of California, The Resources Agency, Department of Fish and Game, natural Heritage Division. Sacramento, California, USA.

Oberbauer, T. A. 1996. Terrestrial Vegetation Communities in San Diego County Based on Holland's Descriptions. San Diego Association of Governments. San Diego. 73pp.

Regional Environmental Consultants, Inc. (RECON). 2004. Final Biological Resources Survey Report for the Naval Radio Receiving Facility, Naval Base Coronado, San Diego, California. Prepared for Naval Resources Office Environmental Department (N45RN) Commander Navy Region Southwest. Contract Number: N68711-00-D-44144 0006.

Sawyer, J.O. and T. Keeler-Wolf. 1995. A Manual of California Vegetation. California Native Plant Society, Sacramento, California.

Tierra Data Inc. 2002. Naval Base Coronado: Integrated Natural Resources Management Plan. Navy Region Southwest; Natural Resources Office Contract number: N6871100-D-4413/0005. 2002 Naval Base Coronado: Integrated Natural Resources Management Plan. Navy Region Southwest; Natural Resources Office Contract number: N6871100-D-4413/0005.

USFWS. 2011. Silver Strand Training Complex Environmental Impact Statement. January 2011.

C-2

CALIFORNIA NATIVE SPECIES FIELD SURVEY FORMS

Mail to:
California Natural Diversity Database
Department of Fish and Game
1807 13th Street, Suite 202
Sacramento, CA 95811
Fax: (916) 324-0475 email: CNDDB@dfg.ca.gov

Date of Field Work (mm/dd/yyyy): 02/29/2012

For Office Use Only
Source Code _____ Quad Code _____
Elm Code _____ Occ. No. _____
EO Index No. _____ Map Index No. _____

Reset

California Native Species Field Survey Form

Send Form

Scientific Name: *Juncus acutus ssp. leopoldii*

Common Name: Southwestern spiny rush

Species Found? ☑ Yes ☐ No _____ If not, why?

Total No. Individuals 100 Subsequent Visit? ☑ yes ☐ no

Is this an existing NDDB occurrence? _____ Yes, Occ. # ☐ no ☑ unk.

Collection? If yes: _____ Number _____ Museum / Herbarium

Reporter: Fred T. Sproul
Address: 19570 Laurel Lane
Ramona, California 92065
E-mail Address: _____
Phone: (619) 694-9409

Plant Information

Phenology: 100 % vegetative _____ % flowering _____ % fruiting

Animal Information

_____ # adults _____ # juveniles _____ # larvae _____ # egg masses _____ # unknown

☐ wintering ☐ breeding ☐ nesting ☐ rookery ☐ burrow site ☐ other

***Location Description* (please attach map AND/OR fill out your choice of coordinates, below)**

On the Naval Radio Facility at the south end of the Silver Strand west of State Route 75. Mostly along the west perimeter fence north of the YMCA Camp Surf to the circular radio antennae, just inside of the coastal dunes.

County: San Diego Landowner / Mgr.: US Navy

Quad Name: Imperial Beach Elevation: 6 feet

T____ R____ Sec ____, ____ ¼ of _____¼, Meridian: H☐ M☐ S☐

T____ R____ Sec ____, ____ ¼ of _____¼, Meridian: H☐ M☐ S☐

Source of Coordinates (GPS, topo. map & type): google earth

GPS Make & Model _____

DATUM: **NAD27** ☐ **NAD83** ☐ **WGS84** ☐

Horizontal Accuracy _____ meters/feet

Coordinate System: UTM Zone 10 ☐ UTM Zone 11 ☑ ***OR*** Geographic (Latitude & Longitude) ☐

Coordinates: From latitude 32d 35m 17.46s north to approximately 32d 35m 26.95s at 117d 07m 00.21S; another small population at 32 d 36m 32.28s 117d 00.30 m

Habitat Description (plants & animals) *plant communities, dominants, associates, substrates/soils, aspects/slope:*

Animal Behavior *(Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):*

Southern Coastal Saltmarsh; also nearby Chloropyron maritimum ssp. maritimum and Frankenia palmeri have been reported from previous surveys.

Please fill out separate form for other rare taxa seen at this site.

Site Information Overall site/occurrence quality/viability (site + population): ☐ Excellent ☑ Good ☐ Fair ☐ Poor

Immediate AND surrounding land use: non-vehicluar military training

Visible disturbances: no visible disturbances

Threats: none perceived

Comments:

Determination: *(check one or more, and fill in blanks)*

- ☐ Keyed (cite reference): _____
- ☐ Compared with specimen housed at: _____
- ☐ Compared with photo / drawing in: _____
- ☐ By another person (name): Jonathan Dunn, Lance Woolley
- ☐ Other: _____

Photographs: *(check one or more)*

	Slide	Print	Digital
Plant / animal	☐	☐	☐
Habitat	☐	☐	☐
Diagnostic feature	☐	☐	☐

May we obtain duplicates at our expense? yes ☐ no ☐

Mail to:
California Natural Diversity Database
Department of Fish and Game
1807 13th Street, Suite 202
Sacramento, CA 95811
Fax: (916) 324-0475 email: CNDDB@dfg.ca.gov

Date of Field Work (mm/dd/yyyy): 02/29/2012

For Office Use Only

Source Code _____ Quad Code _____

Elm Code _____ Occ. No. _____

EO Index No. _____ Map Index No. _____

Reset

California Native Species Field Survey Form

Send Form

Scientific Name: *Ferocactus viridescens*

Common Name: San Diego Barrel Cactus

Species Found? ☑ Yes ☐ No _____ If not, why?

Total No. Individuals 500 Subsequent Visit? ☑ yes ☐ no

Is this an existing NDDB occurrence? _____ Yes, Occ. # ☐ no ☑ unk.

Collection? If yes: _____ Number _____ Museum / Herbarium

Reporter: Fred T. Sproul

Address: AECOM
1420 Kettner Boulevard Suite 500 San Diego CA 92101

E-mail Address: _____

Phone: (619) 694-9409

Plant Information

Phenology: 100 % vegetative _____ % flowering _____ % fruiting

Animal Information

_____ # adults _____ # juveniles _____ # larvae _____ # egg masses _____ # unknown

☐ wintering ☐ breeding ☐ nesting ☐ rookery ☐ burrow site ☐ other

Location Description *(please attach map AND/OR fill out your choice of coordinates, below)*

On the Naval Radio Facility at the south end of the Silver Strand west of State Route 75, Imperial Beach, California.

County: San Diego Landowner / Mgr.: US Navy

Quad Name: Imperial Beach Elevation: 19

T____ R____ Sec ____, ____ ¼ of _____¼, Meridian: H☐ M☐ S☐ Source of Coordinates (GPS, topo. map & type): google earth

T____ R____ Sec ____, ____ ¼ of _____¼, Meridian: H☐ M☐ S☐ GPS Make & Model _____

DATUM: **NAD27** ☐ **NAD83** ☐ **WGS84** ☐ Horizontal Accuracy _____ meters/feet

Coordinate System: UTM Zone 10 ☐ UTM Zone 11 ☑ ***OR*** Geographic (Latitude & Longitude) ☐

Coordinates: c

Habitat Description (plants & animals) *plant communities, dominants, associates, substrates/soils, aspects/slope:*

Animal Behavior *(Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):*

Among Maritime Succulent Scrub composed of Cylindropuntia prolifera, Opuntia littoralis, Lycium californicum, Eriogonum fasciculatum, Artemisia californica.

Please fill out separate form for other rare taxa seen at this site.

Site Information

Overall site/occurrence quality/viability (site + population): ☑ Excellent ☐ Good ☐ Fair ☐ Poor

Immediate AND surrounding land use:

Visible disturbances: Rabbit grazing, damaged some stems, no new recruitment.

Threats: Development of the site.

Comments:

Determination: *(check one or more, and fill in blanks)*

- ☐ Keyed (cite reference): _____
- ☐ Compared with specimen housed at: _____
- ☐ Compared with photo / drawing in: _____
- ☑ By another person (name): Lance Woolley, Jonathan Dunn
- ☐ Other: _____

Photographs: *(check one or more)*

	Slide	Print	Digital
Plant / animal	☐	☐	☐
Habitat	☐	☐	☐
Diagnostic feature	☐	☐	☐

May we obtain duplicates at our expense? yes ☐ no ☐

Mail to:
California Natural Diversity Database
Department of Fish and Game
1807 13th Street, Suite 202
Sacramento, CA 95811
Fax: (916) 324-0475 email: CNDDB@dfg.ca.gov

Date of Field Work (mm/dd/yyyy): _____

For Office Use Only
Source Code _____ Quad Code _____
Elm Code _____ Occ. No. _____
EO Index No. _____ Map Index No. _____

Reset

California Native Species Field Survey Form

Send Form

Scientific Name: *Dudleya variegata*

Common Name: Variegated Dudleya

Species Found? ☑ Yes ☐ No _____ If not, why?

Total No. Individuals 100 Subsequent Visit? ☑ yes ☐ no

Is this an existing NDDB occurrence? _____ Yes, Occ. # ☐ no ☑ unk.

Collection? If yes: _____ Number _____ Museum / Herbarium

Reporter: Fred T. Sproul

Address: AECOM
1420 Kettner Boulevard Suite 500 San Diego CA 92101

E-mail Address: _____

Phone: (619) 694-9409

Plant Information

Phenology: 100 % vegetative _____ % flowering _____ % fruiting

Animal Information

_____ # adults _____ # juveniles _____ # larvae _____ # egg masses _____ # unknown

☐ wintering ☐ breeding ☐ nesting ☐ rookery ☐ burrow site ☐ other

***Location Description* (please attach map AND/OR fill out your choice of coordinates, below)**

On the Naval Radio Facility at the south end of the Silver Strand west of State Route 75, Imperial Beach, California.

County: San Diego Landowner / Mgr.: US Navy

Quad Name: Imperial Beach Elevation: 13

T____ R____ Sec ____, ____ ¼ of _____¼, Meridian: H☐ M☐ S☐

T____ R____ Sec ____, ____ ¼ of _____¼, Meridian: H☐ M☐ S☐

Source of Coordinates (GPS, topo. map & type): google earth

GPS Make & Model _____

DATUM: NAD27 ☐ NAD83 ☐ WGS84 ☐

Horizontal Accuracy _____ meters/feet

Coordinate System: UTM Zone 10 ☐ UTM Zone 11 ☑ ***OR*** Geographic (Latitude & Longitude) ☐

Coordinates: 32d 35m 53.13s 117d 07m 27.42

Habitat Description (plants & animals) *plant communities, dominants, associates, substrates/soils, aspects/slope:*

Animal Behavior *(Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):*

Please fill out separate form for other rare taxa seen at this site.

Site Information Overall site/occurrence quality/viability (site + population): ☑ Excellent ☐ Good ☐ Fair ☐ Poor

Immediate AND surrounding land use:

Visible disturbances: Grazing damage from rabbits

Threats: Development of site

Comments: This population was reported from previous surveys as having 1000's of plants. Apparently despite grazing the plants have persisted, though during this dry year such numbers were not observed.

Determination: *(check one or more, and fill in blanks)*

☐ Keyed (cite reference): _____
☐ Compared with specimen housed at: _____
☐ Compared with photo / drawing in: _____
☑ By another person (name): Lance Woolley
☐ Other: _____

Photographs: *(check one or more)*

	Slide	Print	Digital
Plant / animal	☐	☐	☐
Habitat	☐	☐	☐
Diagnostic feature	☐	☐	☐

May we obtain duplicates at our expense? yes ☐ no ☐

Mail to:
California Natural Diversity Database
Department of Fish and Game
1807 13th Street, Suite 202
Sacramento, CA 95811
Fax: (916) 324-0475 email: CNDDB@dfg.ca.gov

Date of Field Work (mm/dd/yyyy): 02/29/2012

For Office Use Only
Source Code _____ Quad Code _____
Elm Code _____ Occ. No. _____
EO Index No. _____ Map Index No. _____

Reset

California Native Species Field Survey Form

Send Form

Scientific Name: *Acmispon prostrata (Lotus nuttallianus)*

Common Name: Nuttall's Lotus

Species Found? ☑ Yes ☐ No _____ If not, why?

Total No. Individuals 1000's Subsequent Visit? ☑ yes ☐ no

Is this an existing NDDB occurrence? _____ Yes, Occ. # ☐ no ☑ unk.

Collection? If yes: _____ Number _____ Museum / Herbarium

Reporter: Fred T. Sproul
Address: AECOM
1420 Kettner Boulevard Suite 500 San Diego CA 92101
E-mail Address: _____
Phone: (619) 694-9409

Plant Information

Phenology: _____% vegetative 50% flowering _____% fruiting

Animal Information

_____ # adults _____ # juveniles _____ # larvae _____ # egg masses _____ # unknown

☐ wintering ☐ breeding ☐ nesting ☐ rookery ☐ burrow site ☐ other

***Location Description* (please attach map AND/OR fill out your choice of coordinates, below)**

On the Naval Radio Facility at the south end of the Silver Strand west of State Route 75, Imperial Beach, California. Most abundant in the northern part of the 450 acre site. Especially successful where not encroached by ice plant around abandoned cement slabs in developed areas, and in dirt roads.

County: San Diego Landowner / Mgr.: US Navy

Quad Name: Imperial Beach Elevation: 29

T____ R____ Sec ____, ____ ¼ of _____¼, Meridian: H☐ M☐ S☐ Source of Coordinates (GPS, topo. map & type): google earth

T____ R____ Sec ____, ____ ¼ of _____¼, Meridian: H☐ M☐ S☐ GPS Make & Model _____

DATUM: **NAD27** ☐ **NAD83** ☐ **WGS84** ☐ Horizontal Accuracy _____ meters/feet

Coordinate System: UTM Zone 10 ☐ UTM Zone 11 ☑ ***OR*** Geographic (Latitude & Longitude) ☐

Coordinates:

Habitat Description (plants & animals) *plant communities, dominants, associates, substrates/soils, aspects/slope:*

Animal Behavior *(Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):*

Occupying disturbed areas of sandy soils behind sand dunes.

Please fill out separate form for other rare taxa seen at this site.

Site Information Overall site/occurrence quality/viability (site + population): ☑ Excellent ☐ Good ☐ Fair ☐ Poor

Immediate AND surrounding land use:

Visible disturbances: Ice plant has encroached its habitat.

Threats: Development of site.

Comments:

Determination: *(check one or more, and fill in blanks)*

- ☑ Keyed (cite reference): Jepson Manual 2nd Edition, these plants are perennials
- ☐ Compared with specimen housed at: _____
- ☐ Compared with photo / drawing in: _____
- ☐ By another person (name): _____
- ☐ Other: _____

Photographs: *(check one or more)*

	Slide	Print	Digital
Plant / animal	☐	☐	☐
Habitat	☐	☐	☐
Diagnostic feature	☐	☐	☐

May we obtain duplicates at our expense? yes ☐ no ☐

Mail to:
California Natural Diversity Database
Department of Fish and Game
1807 13th Street, Suite 202
Sacramento, CA 95811
Fax: (916) 324-0475 email: CNDDB@dfg.ca.gov

Date of Field Work (mm/dd/yyyy): 02/29/2012

For Office Use Only
Source Code _____ Quad Code _____
Elm Code _____ Occ. No. _____
EO Index No. _____ Map Index No. _____

Reset

California Native Species Field Survey Form

Send Form

Scientific Name: *Nemacaulis denudata var. denudata*

Common Name: Coast Woolly-heads

Species Found? ☑ Yes ☐ No _____ If not, why?

Total No. Individuals 100's Subsequent Visit? ☑ yes ☐ no

Is this an existing NDDB occurrence? _____ Yes, Occ. # ☐ no ☑ unk.

Collection? If yes: _____ Number _____ Museum / Herbarium

Reporter: Fred T. Sproul
Address: AECOM
1420 Kettner Boulevard Suite 500 San Diego CA 92101
E-mail Address: _____
Phone: (619) 694-9409

Plant Information

Phenology: 100 % vegetative _____ % flowering _____ % fruiting

Animal Information

_____ # adults _____ # juveniles _____ # larvae _____ # egg masses _____ # unknown

☐ wintering ☐ breeding ☐ nesting ☐ rookery ☐ burrow site ☐ other

Location Description ***(please attach map AND/OR fill out your choice of coordinates, below)***

On the Naval Radio Facility at the south end of the Silver Strand west of State Route 75, Imperial Beach, California.

County: San Diego Landowner / Mgr.: US Navy
Quad Name: Imperial Beach Elevation: 14
T____ R____ Sec ____, ____ ¼ of _____¼, Meridian: H☐ M☐ S☐ Source of Coordinates (GPS, topo. map & type): Google earth
T____ R____ Sec ____, ____ ¼ of _____¼, Meridian: H☐ M☐ S☐ GPS Make & Model _____
DATUM: **NAD27** ☐ **NAD83** ☐ **WGS84** ☐ Horizontal Accuracy _____ meters/feet
Coordinate System: UTM Zone 10 ☐ UTM Zone 11 ☑ ***OR*** Geographic (Latitude & Longitude) ☐
Coordinates: 32d 36m 32.19s 117d 07m 59.39s

Habitat Description (plants & animals) *plant communities, dominants, associates, substrates/soils, aspects/slope:*
Animal Behavior *(Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):*

Associated with Red Sand Verbena, Acmispon prostrata in back dunes. In sandy soils behind sand dunes, scattered along approx. 1.5 miles on the site. Most abundant in loose sand of dirt roads and areas where iceplant has been removed along the perimeter fence.

Please fill out separate form for other rare taxa seen at this site.

Site Information Overall site/occurrence quality/viability (site + population): ☑ Excellent ☐ Good ☐ Fair ☐ Poor

Immediate AND surrounding land use:

Visible disturbances: Iceplant encroachment

Threats: Development of the site.

Comments:

Determination: *(check one or more, and fill in blanks)*

☐ Keyed (cite reference): _____
☐ Compared with specimen housed at: _____
☐ Compared with photo / drawing in: _____
☐ By another person (name): Lance Woolley and Jonathan Dunn
☐ Other: _____

Photographs: *(check one or more)*

	Slide	Print	Digital
Plant / animal	☐	☐	☐
Habitat	☐	☐	☐
Diagnostic feature	☐	☐	☐

May we obtain duplicates at our expense? yes ☐ no ☐

Mail to:
California Natural Diversity Database
Department of Fish and Game
1807 13th Street, Suite 202
Sacramento, CA 95811
Fax: (916) 324-0475 email: CNDDB@dfg.ca.gov

Date of Field Work (mm/dd/yyyy): 03/12/2012

For Office Use Only

Source Code _____ Quad Code _____

Elm Code _____ Occ. No. _____

EO Index No. _____ Map Index No. _____

Reset

California Native Species Field Survey Form

Send Form

Scientific Name: *Chaenactis glabriuscula ssp. orcuttiana*

Common Name: Orcutt's Pincushion

Species Found? ☑ Yes ☐ No _____ If not, why?

Total No. Individuals 50-100 Subsequent Visit? ☐ yes ☑ no

Is this an existing NDDB occurrence? _____ Yes, Occ. # ☐ no ☐ unk.

Collection? If yes: _____ Number _____ Museum / Herbarium

Reporter: Fred T. Sproul

Address: AECOM
1420 Kettner Boulevard Suite 500 San Diego CA 92101

E-mail Address: _____

Phone: (619) 694-9409

Plant Information

Phenology: _____% vegetative 70% flowering _____% fruiting

Animal Information

_____ # adults _____ # juveniles _____ # larvae _____ # egg masses _____ # unknown

☐ wintering ☐ breeding ☐ nesting ☐ rookery ☐ burrow site ☐ other

***Location Description* (please attach map AND/OR fill out your choice of coordinates, below)**

On the Naval Radio Facility at the south end of the Silver Strand west of State Route 75, Imperial Beach, California. Near the western perimeter fence gate approximately at the center of the site, where the troops gain access to train in the ocean.

County: San Diego Landowner / Mgr.: US Navy

Quad Name: Imperial Beach Elevation: 20

T____ R____ Sec ____, ____ ¼ of _____¼, Meridian: H☐ M☐ S☐ Source of Coordinates (GPS, topo. map & type): Google earth

T____ R____ Sec ____, ____ ¼ of _____¼, Meridian: H☐ M☐ S☐ GPS Make & Model _____

DATUM: **NAD27** ☐ **NAD83** ☐ **WGS84** ☐ Horizontal Accuracy _____ meters/feet

Coordinate System: UTM Zone 10 ☐ UTM Zone 11 ☑ ***OR*** Geographic (Latitude & Longitude) ☐

Coordinates:

Habitat Description (plants & animals) *plant communities, dominants, associates, substrates/soils, aspects/slope:*

Animal Behavior *(Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):*

This plant is not very abundant where it occurs in a somewhat stabilized area behind the more active dunes. Occurring with Cryptantha sp., Lastarriaea coriacea, Camissonia spp. and some other annuals.

Please fill out separate form for other rare taxa seen at this site.

Site Information Overall site/occurrence quality/viability (site + population): ☐ Excellent ☐ Good ☐ Fair ☐ Poor

Immediate AND surrounding land use:

Visible disturbances: Disturbed areas of the back dunes where foot and vehicle traffic disturb this small annual microsite of the dunes.

Threats: Development of site.

Comments:

Determination: *(check one or more, and fill in blanks)*

- ☐ Keyed (cite reference): _____
- ☐ Compared with specimen housed at: _____
- ☐ Compared with photo / drawing in: _____
- ☐ By another person (name): Lance Woolley, Bonnie Hendricks
- ☐ Other: _____

Photographs: *(check one or more)*

	Slide	Print	Digital
Plant / animal	☐	☐	☐
Habitat	☐	☐	☐
Diagnostic feature	☐	☐	☐

May we obtain duplicates at our expense? yes ☐ no ☐

Mail to:
California Natural Diversity Database
Department of Fish and Game
1807 13th Street, Suite 202
Sacramento, CA 95811
Fax: (916) 324-0475 email: CNDDB@dfg.ca.gov

Date of Field Work (mm/dd/yyyy): 02/29/2012

For Office Use Only
Source Code _____ Quad Code _____
Elm Code _____ Occ. No. _____
EO Index No. _____ Map Index No. _____

Reset

California Native Species Field Survey Form

Send Form

Scientific Name: *Abronia maritima*

Common Name: Red sand verbena

Species Found? ☑ Yes ☐ No _____ If not, why?

Total No. Individuals 100's Subsequent Visit? ☑ yes ☐ no

Is this an existing NDDB occurrence? _____ Yes, Occ. # ☐ no ☑ unk.

Collection? If yes: _____ Number _____ Museum / Herbarium

Reporter: Fred T. Sproul
Address: AECOM
1420 Kettner Boulevard Suite 500 San Diego CA 92101
E-mail Address: _____
Phone: (619) 694-9409

Plant Information

Phenology: 100 % vegetative _____ % flowering _____ % fruiting

Animal Information

_____ # adults _____ # juveniles _____ # larvae _____ # egg masses _____ # unknown

☐ wintering ☐ breeding ☐ nesting ☐ rookery ☐ burrow site ☐ other

***Location Description* (please attach map AND/OR fill out your choice of coordinates, below)**

On the Naval Radio Facility at the south end of the Silver Strand west of State Route 75, Imperial Beach, California.

County: San Diego Landowner / Mgr.: US Navy
Quad Name: Imperial Beach Elevation: 14
T____ R____ Sec ____, ____ ¼ of _____¼, Meridian: H☐ M☐ S☐ Source of Coordinates (GPS, topo. map & type): Google earth
T____ R____ Sec ____, ____ ¼ of _____¼, Meridian: H☐ M☐ S☐ GPS Make & Model _____
DATUM: **NAD27** ☐ **NAD83** ☐ **WGS84** ☐ Horizontal Accuracy _____ meters/feet
Coordinate System: UTM Zone 10 ☐ UTM Zone 11 ☑ ***OR*** Geographic (Latitude & Longitude) ☐
Coordinates: 32d 36m 32.19s 117d 07m 59.39s

Habitat Description (plants & animals) *plant communities, dominants, associates, substrates/soils, aspects/slope:*
Animal Behavior *(Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):*

Associated with stabilized sand dunes. In sandy soils of sand dunes, scattered along approx. 1.5 miles on the site.

Please fill out separate form for other rare taxa seen at this site.

Site Information Overall site/occurrence quality/viability (site + population): ☑ Excellent ☐ Good ☐ Fair ☐ Poor

Immediate AND surrounding land use:

Visible disturbances: Iceplant encroachment

Threats: Development of the site.

Comments:

Determination: *(check one or more, and fill in blanks)*

☐ Keyed (cite reference): _____
☐ Compared with specimen housed at: _____
☐ Compared with photo / drawing in: _____
☐ By another person (name): Lance Woolley and Jonathan Dunn
☐ Other: _____

Photographs: *(check one or more)*

	Slide	Print	Digital
Plant / animal	☐	☐	☐
Habitat	☐	☐	☐
Diagnostic feature	☐	☐	☐

May we obtain duplicates at our expense? yes ☐ no ☐

Mail to:
California Natural Diversity Database
Department of Fish and Game
1807 13th Street, Suite 202
Sacramento, CA 95811
Fax: (916) 324-0475 email: CNDDB@dfg.ca.gov

Date of Field Work (mm/dd/yyyy): _____

For Office Use Only

Source Code _____ Quad Code _____

Elm Code _____ Occ. No. _____

EO Index No. _____ Map Index No. _____

Reset

California Native Species Field Survey Form

Send Form

Scientific Name: *Lycium californicum*

Common Name:

Species Found? ☑ Yes ☐ No _____ If not, why?

Total No. Individuals 100 Subsequent Visit? ☑ yes ☐ no

Is this an existing NDDB occurrence? _____ Yes, Occ. # ☐ no ☑ unk.

Collection? If yes: _____ Number _____ Museum / Herbarium

Reporter: Fred T. Sproul

Address: 19570 Laurel Lane
Ramona, California 92065

E-mail Address: _____

Phone: (619) 694-9409

Plant Information

Phenology: 100 % vegetative _____ % flowering _____ % fruiting

Animal Information

_____ # adults _____ # juveniles _____ # larvae _____ # egg masses _____ # unknown

☐ wintering ☐ breeding ☐ nesting ☐ rookery ☐ burrow site ☐ other

Location Description *(please attach map AND/OR fill out your choice of coordinates, below)*

Among Maritime Succulent Scrub composed of Cylindropuntia prolifera, Opuntia littoralis, Lycium californicum, Eriogonum fasciculatum, Artemisia californica.

County: San Diego Landowner / Mgr.: US Navy

Quad Name: Imperial Beach Elevation: 19

T____ R____ Sec ____, ____ ¼ of _____¼, Meridian: H☐ M☐ S☐ Source of Coordinates (GPS, topo. map & type): google earth

T____ R____ Sec ____, ____ ¼ of _____¼, Meridian: H☐ M☐ S☐ GPS Make & Model _____

DATUM: **NAD27** ☐ **NAD83** ☐ **WGS84** ☐ Horizontal Accuracy _____ meters/feet

Coordinate System: UTM Zone 10 ☐ UTM Zone 11 ☐ ***OR*** Geographic (Latitude & Longitude) ☐

Coordinates: Among Maritime Succulent Scrub composed of Cylindropuntia prolifera, Opuntia littoralis, Lycium californicum, Eriogonum fasciculatum, Artemisia californica.

Habitat Description (plants & animals) *plant communities, dominants, associates, substrates/soils, aspects/slope:*

Animal Behavior *(Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):*

Among Maritime Succulent Scrub composed of Cylindropuntia prolifera, Opuntia littoralis, Lycium californicum, Eriogonum fasciculatum, Artemisia californica.

Please fill out separate form for other rare taxa seen at this site.

Site Information

Overall site/occurrence quality/viability (site + population): ☐ Excellent ☐ Good ☐ Fair ☐ Poor

Immediate AND surrounding land use:

Visible disturbances:

Threats:

Comments:

Determination: *(check one or more, and fill in blanks)*

- ☐ Keyed (cite reference): _____
- ☐ Compared with specimen housed at: _____
- ☐ Compared with photo / drawing in: _____
- ☐ By another person (name): Jonathan Dunn, Lance Woolley
- ☐ Other: _____

Photographs: *(check one or more)*

	Slide	Print	Digital
Plant / animal	☐	☐	☐
Habitat	☐	☐	☐
Diagnostic feature	☐	☐	☐

May we obtain duplicates at our expense? yes ☐ no ☐

C-3

RESULTS OF PROTOCOL SURVEYS FOR LISTED FAIRY SHRIMP

FINAL REPORT

RESULTS OF PROTOCOL SURVEYS FOR LISTED FAIRY SHRIMP, SILVER STRAND TRAINING COMPLEX-SOUTH, NAVAL BASE CORONADO

Contract Number: N62473-D-2401
Task Order Number: 0045

PREPARED FOR:

Naval Facilities Engineering Command Southwest
1220 Pacific Hwy
San Diego, California 92132

PREPARED BY:

ICF International (Formerly ICF Jones & Stokes)
9775 Businesspark Avenue, Suite 200
San Diego, California 92131

August 2012

ICF INTERNATIONAL

ICF International. 2012. Results of Protocol Surveys for Listed Fairy Shrimp, Silver Strand Training Complex-South, Naval Base Coronado. Final. August. Prepared for Naval Facilities Engineering Command Southwest.

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Chapter 1
Introduction

In order to ascertain the potential biological constraints for future projects at Silver Strand Training Complex-South (SSTC-S), Naval Base Coronado (NBC), NAVFAC Southwest requested a survey that included vernal pool mapping, vernal pool floral inventory, water chemistry testing, and a determination of the current status and location of listed fairy shrimp. The area where the surveys were performed includes several basins and vernal pools that support standing water, potential habitat for fairy shrimp. A previous survey of the area conducted in 2003 by Cobb and O'Connor documented the presence of the federally endangered San Diego fairy shrimp (*Branchinecta sandiegonensis* [SDFS]) in 11 of the 31 basins surveyed at that time. For the 2011 surveys, the objective was to determine if these basins still supported SDFS and to determine if other basins not surveyed in 2003 supported SDFS or other listed fairy shrimp. ICF International (ICF) conducted the vernal pool plant surveys, vernal pool mapping, water chemistry testing, and focused surveys for fairy shrimp in 2010/2011.

1.1 Project Area

SSTC-S occupies approximately 566 acres on the southern tip of the Silver Strand and is located mostly within the City of Coronado except for the extreme south end (approximately 2 acres) which is within the boundaries of the City of Imperial Beach (Figure 1). Silver Strand State Beach neighbors the property on the north, Highway 75 forms the eastern boundary, the western boundary is the Pacific Ocean, and the southern boundary is the City of Imperial Beach. There are a few structures on the installation, many of which are historical, such as the now-defunct Wullenweber receiving antenna and associated support structures. The climate is characterized by warm dry summers and cool wet winters, typical of the semi-arid Mediterranean climate found in southern California.

Topography of SSTC-S ranges from approximately 10 feet to 35 feet above sea level. Small, shallow, depressions occur in various locations across the site, where vernal pools, seasonal wetlands and waterfowl habitats are formed during the winter months. Vegetation types occurring within the boundaries of SSTC-S include Diegan coastal sage scrub, disturbed coastal sage scrub, maritime succulent scrub, southern foredune, southern coastal salt marsh, freshwater marsh, disturbed grassland/ruderal, and non-native vegetation dominated by hottentot fig (*Carpobrotus* sp). For the vernal pool surveys, the survey area consists of the eastern half of the installation in areas outside the limits of the beach. The vegetation in this area is primarily comprised of disturbed and non-native vegetation and 4.8 acres of vernal pools occur within this area.

Chapter 2
Methods

ICF conducted a protocol vernal pool survey within the survey area to identify potential biological constraints for future projects in this area. The focus of the surveys was to determine if federally-listed fairy shrimp occur within the basins located within the survey area and to map the general limits of these basins. Protocol surveys for listed fairy shrimp included wet and dry season components. During the wet season, basins were examined for live fairy shrimp, and shrimp are collected and identified. During the dry season, soils were examined for fairy shrimp cysts and cysts were hatched for identification. These two sampling methods help to ensure that the presence of fairy shrimp in basin is not missed during one sampling technique. The protocol wet season fairy shrimp sampling occurred in winter 2010/2011 and spring 2011, dry season soil collection occurred in summer 2011, and fairy shrimp cyst identification and cysts hatching occurred in summer/fall 2011. On October 25, 2010, ICF vernal pool biologist Doug Allen (TE Permit# 837448-4), ICF biologists Kylie Fischer, Mark Bethke, and Paul Schwartz met with Kim O'Conner and Rubin Guieb from NAVFAC Southwest, and Bryan Munson from NBC. During this meeting, the biologists conducted a reconnaissance site visit to assess the potential for vernal pools (basins) or fairy shrimp habitat to occur within the survey area.

2.1 Fairy Shrimp Sampling

All fairy shrimp surveys were conducted in accordance with the Interim Survey Guidelines to Permittees for Recovery Permits under Section 10(a)(1)(A) of the Endangered Species Act for the Listed Vernal Pool Branchiopods (Guidelines) (USFWS 1996). Prior to initiating the surveys, a 10-day pre-notification letter was sent to the U.S. Fish and Wildlife Service-Carlsbad Field Office requesting permission to conduct a protocol survey (dry/wet sampling) for the presence of listed fairy shrimp.

The survey consisted of walking the entire survey area and documenting if any vernal pools, basins, depressions, or road ruts (basins) occurring within the survey area were inundated. All mapped basins were surveyed for the presence of fairy shrimp. Any new basins were documented with a GPS unit, photographed and surveyed for the presence of fairy shrimp.

2.1.1 Wet Season Fairy Shrimp Sampling

Wet season sampling commenced after the first significant rainfall of the 2010/2011 season (Table 1). ICF biologist Doug Allen was assisted during several field visits by ICF biologist Paul Schwartz and Lisa Markovchick from NAVFAC Southwest (Tables 1). The protocol wet-season survey was considered complete on May 20, 2011.

During the wet season, biologists visited the pools after storm events of at least one inch to document when a pool was inundated (held more than 3 centimeters of standing water). Early site visits were to assess the water levels within the basins to determine when they were inundated. After inundation, pools were visited once every two weeks until the pools were no longer inundated or they were inundated for more than 120 days to assess the growth of fairy shrimp and to evaluate if the pools were refilling with late season rain events. Surveys were reinitiated if pools refilled to

above 3 cm (Table 2). During each visit, portions of the pool bottom, edges and vertical water column were sampled using a seine, dip net or aquarium net appropriate for the size of the pool. Mesh size was no larger than 1/8 inch. Sampling tools were examined and emptied at least once every five linear meters. Voucher specimens of all listed vernal pool branchiopods captured were collected and all other specimens were returned to the pool. Specimens were only collected once for each pool, with a maximum of 20 specimens (3 specimens of either sex) or less than 10% of the population of each listed species collected. Only sexually mature individuals were collected. If a federally-listed fairy shrimp was recovered from any of the basins during the wet season sampling, the fairy shrimp survey for that basin would be considered completed under the protocol guidelines.

Table 1. Fairy Shrimp Site Visits and Personnel

Date	Personnel
10/25/10	D. Allen, P. Schwartz, K. Fischer, M. Bethke, K. O'Conner, R. Guieb, B. Munson
11-22-10	D. Allen
12-23-10	D. Allen
01-03-11	D. Allen, P. Schwartz
01-04-11	D. Allen, P. Schwartz
01-18-11	D. Allen, P. Schwartz
02-01-11	D. Allen, L. Markovchick
02-14-11	D. Allen, P. Schwartz, L. Markovchick
02-20-11	D. Allen
02-23-11	D. Allen, P. Schwartz
02-28-11	D. Allen, P. Schwartz
03-14-11	D. Allen, P. Schwartz
03-28-11	D. Allen, P. Schwartz
04-11-11	D. Allen, P. Schwartz
04-25-11	D. Allen
05-09-11	D. Allen

Table 2. Precipitation

Rain Event Date	Precipitation Total (inches)	Results/Status
10-18-10 to 10-20-10	1.05	
10-25-10	0.23	Low rain fall event. No re-initiation of previously dried pools.
10-30-10	0.15	Low rain fall event. No re-initiation of previously dried pools.
11-08-10	0.07	Low rain fall event. No re-initiation of previously dried pools.
11-20-10 to 11-21-10	0.72	Low rain fall event. No re-initiation of previously dried pools.
11-24-10	0.04	Low rain fall event. No re-initiation of previously dried pools.
11-28-10	0.05	Low rain fall event. No re-initiation of previously dried pools.

Rain Event Date	Precipitation Total (inches)	Results/Status
12/18/10	0.04	Low rain fall event. No re-initiation of previously dried pools.
12-20-10 to 12-23-10	4.27	Re-initiation of previously dried pools.
12-26-10	0.21	Low rain fall event. No re-initiation of previously dried pools.
12-29-10	0.46	Low rain fall event. No re-initiation of previously dried pools.
01-02-11 to 01-03-11	0.27	Low rain fall event. No re-initiation of previously dried pools.
01-31-11	0.04	Low rain fall event. No re-initiation of previously dried pools.
02-16-11 to 02-20-11	1.25	Re-initiation of previously dried pools.
02-26-11 to 02-27-11	0.88	Low rain fall event. No re-initiation of previously dried pools.
03-07-11	0.14	Low rain fall event. No re-initiation of previously dried pools.
03-21-11	0.92	Low rain fall event. No re-initiation of previously dried pools.
03-24-11 to 03-25-11	0.40	Low rain fall event. No re-initiation of previously dried pools.
04-08-11 to 04-09-11	0.26	Low rain fall event. No re-initiation of previously dried pools.
05-09-11	0.02	Low rain fall event. No re-initiation of previously dried pools.
05-17-11 to 05-18-11	0.25	Low rain fall event. No re-initiation of previously dried pools.

2.1.2 Dry Season Fairy Shrimp Sampling

2.1.2.1 Soil Collection

On August 17, 2011, ICF biologists Doug Allen, Paul Schwartz, and Lisa Markovchick (NAVFAC Southwest) collected soil samples for the dry season survey. On August 29, 2011, Doug Allen finished collecting soil samples for the dry season survey. Soil samples were processed by Doug Allen in accordance with the Guidelines. Soil samples were collected when the areas with potential to support fairy shrimp (i.e., vernal pools, road ruts, depressions, basins) were dry. A hand trowel or similar instrument was used to collect an approximately one liter volume sample per pool consisting of the top 1-3 centimeters of pool sediment. Whenever possible, soil samples were collected in chunks and the trowel was used to pry up intact chunks of sediment. Loosening the soil by raking or shoveling was avoided as such methods can damage cysts.

At least ten soil samples were collected at each pool, but no more than one liter of soil was taken from any pool. If a pool had a diameter of less than three meters, the number of samples was decreased and the total soil sample taken from that pool did not exceed 0.5 liter in volume. Samples

were collected in the following manner: one from the edge of the pool, at least four from equidistant points along the longest transect of the pool, at least four from equidistant points along the widest transect of the pool and, when necessary, at least two samples from the deepest part of the pool.

Each soil sample was labeled, stored, and analyzed individually. Each label included information necessary to identify the specific collection location for each sample. The soil samples were placed in separate bags. Any soil sample with residual moisture was adequately ventilated and allowed to air dry thoroughly before it was stored. The stored samples were kept out of direct sunlight in order to avoid excessive heating.

2.1.2.2 Soil Processing for Cyst Presence

One hundred milliliter (ml) portions of samples were measured out into individual plastic containers. Where there were fewer than ten samples per basin, additional samples were made from soil remaining after 100 ml portions were removed from individually collected samples, up to a total maximum of ten samples per basin. These samples were hydrated for approximately two hours in tap water then washed through a set of sieves. Material passing through a Number 45 (0.0139") USA Standard Testing Sieve, A.S.T.M.E.-11 specification and caught on a Number 70 (0.0083") Sieve was rinsed into a container with approximately 50 ml of a saturated brine solution to float organic material, including fairy shrimp cysts. The material floating on the brine was decanted onto a paper filter on a filter funnel, and water was removed through the filter paper by vacuum suction. The material left on the paper was examined under a 6.3-570x power Olympus SZX9 Zoom Stereo Microscope. Distinctive fairy shrimp cysts, if present, were counted.

Cyst density information for each soil sample location was calculated by dividing the total number of cysts recovered by the total amount of soil collected from that soil sample location. Total cyst density information for each soil sample location was reported for each species in terms of: none; 1-25 cysts/100 ml of soil; 26-50 cysts/100 ml of soil; 51-100 cysts/100 ml of soil; 101-199 cysts/100 ml of soil; or more than 200 cysts/100 ml of soil.

Each fairy shrimp and shrimp cyst type was identified to species by Doug Allen. Cysts that could not be identified to the species were hatched and identified.

2.1.2.3 Cyst Culturing

Cysts recovered in processing were grouped by basin number and hydrated with approximately two liters of Arrowhead Mountain Spring Water in plastic containers. Containers were placed in an environmental growth chamber held at 52 to 53°Farenheight (°F). When hatched fairy shrimp nauplii (free swimming first stage larvae) were observed, cultures were removed from the chamber and held at ambient shade conditions (approximately 50°F night/70°F. day), lightly aerated, and fed with 1-2 teaspoons daily of a mixture of dried yeast dissolved in warm water with sugar and crumbled aquarium fish food flakes. Adult shrimp were removed from the culture as they matured, and identified to species.

2.2 Vernal Pool Floral Inventory

ICF International (ICF) biologist Paul Schwartz conducted the vernal pool floral inventory for 45 basins within the study area. The surveys were conducted during the winter, spring and summer

months of 2011. All 45 basins were surveyed throughout their aquatic phase during the fairy shrimp survey effort and again in their dry phase during the highest period of vegetative growth. A final survey of the majority of the basins was conducted late in the summer during dry season fairy shrimp surveys. Table 3 depicts the survey type and basins surveyed for each survey visit. During each survey visit, all plant species observed in the basins was recorded with a focus on identifying any federally listed species. Plants were detected and identified through direct sight based on previous experience with the species or using the *Jepson Manual, Higher Plants of California* (Hickman 1993). Scientific nomenclature and common names were taken from the Jepson Online Interchange (Jepson Online Interchange 2011) and the *Checklist of the Vascular Plants of San Diego County* (Simpson and Rebman 2006) respectively. Special-status rankings for plant species were identified through a review of the California Department of Fish and Game (CDFG) *Special Plants, Bryophytes and Lichens List* (CDFG 2011) and the California Native Plant Society (CNPS) *Inventory of Rare and Endangered Plants* (CNPS 2011).

Table 3. Vernal Pool Floral Inventory Site Visits and Personnel

Survey Date	Survey Type (Aquatic/Dry)	Basins Surveyed
January 3, 2011	Aquatic	All
January 4, 2011	Aquatic	All
January 18, 2011	Aquatic	16, 17, 18, 20, 20e, 20en, 27a, 27b, 27c, 27e, 27f, 27g
February 14, 2011	Aquatic	3, 9, 10, 16, 18, 20, 20e, 20en, 23
February 28, 2011	Aquatic	5, 9, 14, 17, 18, 21, 22, 23, 24, 26, 32, 36, 37, 38, 39
March 14, 2011	Aquatic	5, 9, 13, 17, 18, 21, 22, 23, 24, 26, 32
March 28, 2011	Aquatic /Dry	5, 18, 21, 22, 23, 24, 26, 27, 27a, 27b, 27c, 27d, 27e, 27f, 27g, 28, 29, 30, 31, 32, 33, 34, 40 , 41
April 11, 2011	Dry	1, 2, 3, 4, 6, 7, 8, 13, 15, 15b, 17, 19, 20, 36
June 2, 2011	Dry	9, 10, 16, 18, 20a, 20b, 20c, 20e, 21
August 17, 2011	Dry	5a, 18, 21, 22, 24, 26, 27, 27b, 27c, 27e, 27f, 27g, 28, 28b, 29, 30, 32, 33, 34, 40, 41

2.3 Water Chemistry

In response to the U.S. Fish and Wildlife's (USFWS) concerns to the potential increase over time of salinity in the basins inhabited by SDFS (Pers. Comm, K. O'Conner), ICF biologists consistently collected data for salinity, conductivity, total dissolved soils (TDS), and temperature for 11 basins using the YSI EcoSense EC 300 Meter with a multi-function probe. Prior to use, the probe was calibrated using YSI 3167 Conductivity Calibration Solution (1,000 microsiemens) and calibrated against a solution of distilled water. The probe was rinsed with distilled water between each basin. Data was also collected on pH using Hydrion pH paper (0.0 to 13.0).

Salinity is defined as the amount of dissolved salt content in a body of water. As the survey area is immediately adjacent to the Pacific Ocean, this measurement will help to determine if the basins are at salinity levels that are conducive to raising fairy shrimp and growing vernal pool plant species.

Salinity was measured in microsiemens (uS). For the purpose of this report, salinity less than 0.5 ppt is considered mostly freshwater and is a very low level. Salinity between 1.0 and 5.0 ppt is considered mildly brackish and is a low level. Salinity between 5.0 and 15.0 ppt is considered moderately brackish and a moderate level. Salinity between 15.0 and 35.0 ppt is considered heavily brackish and is a high level. The salinity of ocean water, on average, is between 32 to 37 ppt. There is limited published data on salinity levels that SDFS will tolerate. The USFWS five-year review suggests that SDFS occur in dilute vernal pools that have low sodium (Na+) concentrations, less than 60 millimoles per liter (1.38 ppt) (USFWS 2008).

Conductivity is a measure of a solutions ability to conduct electricity using the ions in solution. Conductivity was measured in parts per thousand (ppt). TDS is a measure of all inorganic and organic ions in a liquid. TDS was measured in parts per thousand (ppt). The electrical conductivity of water is tied closely to TDS and both help to further measure the waters salinity. Since the electrical conductivity is a measure to the capacity of water to conduct electrical current, it is directly related to the concentration of salts dissolved in water, and therefore to the amount of TDS in the water. The few data published on SDFS and water chemistry show that SDFS prefer a moderate pH (6.5 to 8.0) and TDS that are low (mean of 75 parts per million (ppm) (0.075 ppt) as measured by conductivity) (Eriksen and Belk 1999).

The number of data points taken for each basin depended on the size of the surface water within each basin. Random data points were taken throughout the basin during each sampling visit to ensure a more accurate reflection of the water chemistry within each basin. The sampled basins included basins which support SDFS and basins which did not. The sampled basins were basins that were inundated longer than two weeks and, therefore, could be sampled over time to record any changes in salinity during the first year of data collection. A total of 11 basins were chosen based on the criteria stated above. To measure any significant long-term permanent increases in salinity, water chemistry sampling should be conducted over several years. Water chemistry data were collected four times (Table 4).

Table 4. Water Chemistry Site Visits and Personnel

Date	Personnel
02/14/11	D. Allen, P Schwartz, L. Markovchick, R. Guieb
02/23/11	D. Allen, P Schwartz
03/14/11	D. Allen, P Schwartz
04/11/11	D. Allen, P Schwartz

Chapter 3
Results

3.1 Fairy Shrimp Sampling

After review of the entire survey area and all of the sources of data, 59 basin/depressions were identified within the survey area and mapped as potential fairy shrimp habitat (Figure 2, Appendix A). The basins surveyed in2010/2011 fell into three categories: natural basins, active road ruts, or past-disturbance depressions (old road features or depressions reclaimed by native and or non-native vegetation). For the 2010/2011 sampling, a total of 26 of the 59 basins identified were confirmed to have SDFS (Figure 2). These results were from the wet and dry season surveys. Table 5 presents a summary of the 2003 and 2010/2011 results for comparison. A timeline of precipitation events, site visits and results for the 2010/2011 wet season survey are shown in Exhibit 1.

Table 5. Summary of Fairy Shrimp Survey Results

Basin Number	Year Sampled	Type of Basin	Fairy Shrimp Species	Estimated # of individuals	Additional Notes
1	2003 2010	Natural basin	SDFS	100s	2003: SDFS documented. 2010: SDFS collected during wet season.
2	2003 2010	Natural basin	SDFS	100s	2003: SDFS documented. 2010: SDFS collected during wet season.
3	2003 2010	Natural basin	SDFS	100s	2003: SDFS documented. 2010: SDFS collected during wet season.
4	2003 2010	Natural basin	SDFS	100s	2003: SDFS documented. 2010: SDFS collected during wet season.
5	2003 2010	Road rut	SDFS	10s	2003: SDFS documented. 2010: No fairy shrimp collected during wet season. SDFS cysts were collected during the dry season.
5a	2010	Natural basin	None	0	2003: Not mapped in 2003-No data. 2010: No fairy shrimp collected during wet season. Basin was not inundated during the wet season. No fairy shrimp cysts were collected during the dry season.
6	2003 2010	Natural basin	SDFS	10s	2003: SDFS documented. 2010: No fairy shrimp collected during wet season. Basin was not inundated during the wet season. SDFS cysts were collected during the dry season.
7	2003 2010	Natural basin	SDFS	10s	2003: SDFS documented. 2010: No fairy shrimp collected during wet season. Basin was not inundated during the wet season. SDFS cysts were collected during the dry season.

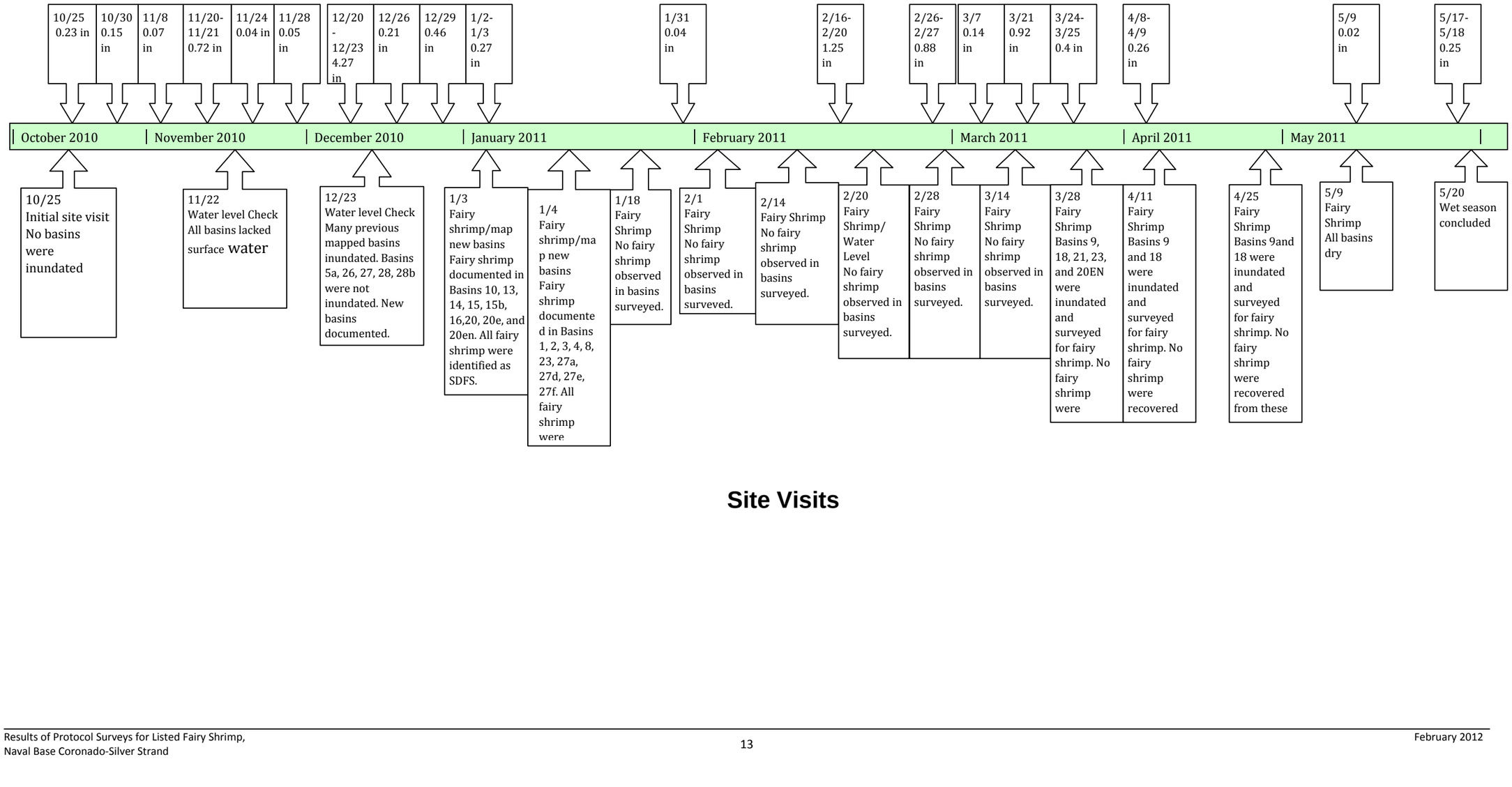
Basin Number	Year Sampled	Type of Basin	Fairy Shrimp Species	Estimated # of individuals	Additional Notes
8	2003 2010	Natural basin	SDFS	100s	2003: SDFS documented. 2010: SDFS collected during wet season.
9	2003 2010	Natural basin	None	0	2003: No fairy shrimp documented. 2010: No fairy shrimp collected during wet season. No fairy shrimp cysts were collected during the dry season.
10	2003 2010	Natural basin	SDFS	1000s	2003: SDFS documented. 2010: SDFS collected during wet season.
13	2003 2010	Past-disturbance depression	SDFS	100s	2003: No fairy shrimp documented. 2010: SDFS collected during wet season.
14	2003 2010	Natural basin	SDFS	10s	2003: No fairy shrimp documented. 2010: SDFS collected during wet season.
15	2003 2010	Past-disturbance depression	SDFS	100s	2003: SDFS documented. 2010: SDFS collected during wet season.
15b	2003 2010	Past-disturbance depressions	SDFS	100s	2003: No fairy shrimp documented. 2010: SDFS collected during wet season.
16	2003 2010	Natural basin	SDFS	100s	2003: SDFS documented. 2010: SDFS collected during wet season.
17	2003 2010	Natural basin	None	0	2003: No fairy shrimp documented. 2010: No fairy shrimp collected during wet season. No fairy shrimp cysts were collected during the dry season.
18	2003 2010	Natural basin	None	0	2003: No fairy shrimp documented. 2010: No fairy shrimp collected during wet season. No fairy shrimp cysts were collected during the dry season.
19	2003 2010	Natural basin	None	0	2003: No fairy shrimp documented. 2010: No fairy shrimp collected during wet season. No fairy shrimp cysts were collected during the dry season.
20	2003 2010	Active road rut	SDFS	10s	2003: SDFS documented. 2010: SDFS collected during wet season.
20a	2010	Active road rut	None	0	2003: Not mapped in 2003. No data. 2010: No fairy shrimp collected during wet season. No fairy shrimp cysts were collected during the dry season.
20b	2010	Active road rut	None	0	2003: Not mapped in 2003. No data. 2010: No fairy shrimp collected during wet season. No fairy shrimp cysts were collected during the dry season.
20c	2010	Active road rut	SDFS	10s	2003: Not mapped in 2003. No data. 2010: SDFS collected during wet season.

Basin Number	Year Sampled	Type of Basin	Fairy Shrimp Species	Estimated # of individuals	Additional Notes
20d	2010	Active road rut	None	0	2003: Not mapped in 2003. No data. 2010: No fairy shrimp collected during wet season. No fairy shrimp cysts were collected during the dry season.
20e	2010	Drainage channel	SDFS	10s	2003: Not mapped in 2003. No data. 2010: SDFS collected during wet season.
20en	2010	Drainage channel and active road rut	SDFS	10s	2003: No mapped in 2003. No data. 2010: SDFS collected during wet season.
21	2003 2010	Natural basin	None	0	2003: No fairy shrimp documented. 2010: No fairy shrimp collected during wet season. No fairy shrimp cysts were collected during the dry season.
22	2003 2010	Past-disturbance depression	None	0	2003: No fairy shrimp documented. 2010: No fairy shrimp collected during wet season. No fairy shrimp cysts were collected during the dry season.
23	2003 2010	Past-disturbance depression	SDFS	10s	2003: No fairy shrimp documented. 2010: SDFS collected during wet season.
24	2003 2010	Past-disturbance depression	None	0	2003: No fairy shrimp documented. 2010: No fairy shrimp collected during wet season. No fairy shrimp cysts were collected during the dry season.
26	2003 2010	Natural basin	SDFS	10s	2003: No fairy shrimp documented. 2010: No fairy shrimp collected during wet season. SDFS cysts were collected during the dry season.
27	2003 2010	Natural basin	None	0	2003: No fairy shrimp documented. 2010: No fairy shrimp collected during wet season. Basin was not inundated during the wet season. No fairy shrimp cysts were collected during the dry season.
27a	2010	Natural basin	SDFS	100s	2003: Not mapped in 2003. No data. 2010: SDFS collected during wet season.
27b	2010	Natural basin	SDFS	10s	2003: Not mapped in 2003. No data. 2010: No fairy shrimp collected during wet season. SDFS cysts were collected during the dry season.
27c	2010	Natural basin	SDFS	10s	2003: Not mapped in 2003. No data. 2010: No fairy shrimp collected during wet season. SDFS cysts were collected during the dry season.

Basin Number	Year Sampled	Type of Basin	Fairy Shrimp Species	Estimated # of individuals	Additional Notes
27d	2010	Natural basin	SDFS	10s	2003: Not mapped in 2003. No data. 2010: SDFS collected during wet season.
27e	2010	Natural basin	SDFS	10s	2003: Not mapped in 2003. No data. 2010: SDFS collected during wet season.
27f	2010	Natural basin	SDFS	10s	2003: 2010: SDFS collected during wet season.
27g	2010	Natural basin	SDFS	10s	2003: Not mapped in 2003. No data. 2010: No fairy shrimp collected during wet season. SDFS cysts were collected during the dry season.
28	2003 2010	Natural basin	None	0	2003: No fairy shrimp documented 2010: No fairy shrimp collected during wet season. Basin was not inundated during the wet season. No fairy shrimp cysts were collected during the dry season.
28b	2010	Natural basin	None	0	2003: Not mapped in 2003. No data. 2010: No fairy shrimp collected during wet season. Basin was not inundated during the wet season. No fairy shrimp cysts were collected during the dry season.
29	2003 2010	Natural basin	None	0	2003: No fairy shrimp documented. 2010: No fairy shrimp collected during wet season. No fairy shrimp cysts were collected during the dry season.
30	2003 2010	Natural basin	None	0	2003: No fairy shrimp documented. 2010: No fairy shrimp collected during wet season. No fairy shrimp cysts were collected during the dry season.
31	2003 2010	Natural basin	None	0	2003: No fairy shrimp documented. 2010: No fairy shrimp collected during wet season. No fairy shrimp cysts were collected during the dry season.
32	2003 2010	Natural basin	None	0	2003: No fairy shrimp documented. 2010: No fairy shrimp collected during wet season. No fairy shrimp cysts were collected during the dry season.
33	2003 2010	Natural basin	None	0	2003: No fairy shrimp documented. 2010: No fairy shrimp collected during wet season. No fairy shrimp cysts were collected during the dry season.
34	2003 2010	Natural basin	None	0	2003: No fairy shrimp documented. 2010: No fairy shrimp collected during wet season. No fairy shrimp cysts were collected during the dry season.

Basin Number	Year Sampled	Type of Basin	Fairy Shrimp Species	Estimated # of individuals	Additional Notes
35	2010	Active road rut	None	0	2003: Not mapped in 2003. No data. 2010: No fairy shrimp collected during wet season. Basin was not inundated during the wet season. No fairy shrimp cysts were collected during the dry season.
36	2010	Road rut	None	0	2003: Not mapped in 2003. No data. 2010: No fairy shrimp collected during wet season. No fairy shrimp cysts were collected during the dry season.
37	2010	Road rut	None	0	2003: Not mapped in 2003. No data. 2010: No fairy shrimp collected during wet season. No fairy shrimp cysts were collected during the dry season.
38	2010	Road rut	None	0	2003: Not mapped in 2003. No data. 2010: No fairy shrimp collected during wet season. No fairy shrimp cysts were collected during the dry season.
39	2010	Road rut	None	0	2003: Not mapped in 2003. No data. 2010: No fairy shrimp collected during wet season. No fairy shrimp cysts were collected during the dry season.
40	2010	Past-disturbance depression	None	0	2003: Not mapped in 2003. No data. 2010: No fairy shrimp collected during wet season. No fairy shrimp cysts were collected during the dry season.
41	2010	Past-disturbance depression	None	0	2003: Not mapped in 2003. No data. 2010: No fairy shrimp collected during wet season. No fairy shrimp cysts were collected during the dry season.

Exhibit 1. Timeline of Precipitation Events, Site Visits Dates, and Survey Results for the 2010/2011 Wet-Season Survey



3.1.1 Wet Season Sampling

SDFS were observed in 19 of the 59 basins surveyed during the 2010/2011 wet season protocol survey (Figure 2). No other fairy shrimp species were detected during wet season sampling. There were 34 basins of the 54 that were not inundated long enough to allow for fairy shrimp to hatch or were not inundated during the wet season. These basins were included in the dry season survey sampling to determine if there were cysts within the basins.

3.1.2 Dry Season Sampling and Cyst Presence

Distinctive *Branchinecta* spp. cysts were found in the soil samples from seven basins of the 34 basins surveyed during the dry season survey (Table 6). If a basin had SDFS during the wet season, dry season sampling was not conducted. Basin 7 had the highest number of cysts (11) and Basin 5 had the lowest number (3). Overall, the cysts recovered from the basins occurred in very low numbers. Only SDFS were cultured from cysts collected from the 34 basins sampled during the dry season (Table 6).

Table 6. Numbers of Cysts in Soil Samples and Results of Cyst Culturing

Basin	Soil Sample Number/Number of Cysts within Each Soil Sample										Hatched fairy shrimp Species
	1	2	3	4	5	6	7	8	9	10	
5	0	0	1	0	1	0	1	0	0	0	SDFS
5a	0	0	0	0	0	0	0	0	0	0	-
6	0	2	2	0	1	0	1	0	0	3	SDFS
7	2	3	0	0	0	5	0	1	0	0	SDFS
9	0	0	0	0	0	0	0	0	0	0	-
17	0	0	0	0	0	0	0	0	0	0	-
18	0	0	0	0	0	0	1	0	0	0	-
19	0	0	0	0	0	0	0	0	0	0	-
20a	0	0	0	0	0	0	0	0	0	0	-
20b	0	0	0	0	0	0	0	0	0	0	-
20d	0	0	0	0	0	0	0	0	0	0	-
21	0	0	0	0	0	0	0	0	0	0	-
22	0	0	0	0	0	0	0	0	0	0	-
24	0	0	0	0	0	0	0	0	0	0	-
26	0	0	1	0	2	1	1	0	1	0	SDFS
27	0	0	0	0	0	0	0	0	0	0	-
27b	1	0	0	0	3	0	0	2	0	1	SDFS
27c	0	2	1	1	0	0	1	0	0	0	SDFS
27g	1	0	0	0	2	0	1	1	0	0	SDFS
28	0	0	0	0	0	0	0	0	0	0	-
28b	0	0	0	0	0	0	0	0	0	0	-
29	0	0	0	0	0	0	0	0	0	0	-
30	0	0	0	0	0	0	0	0	0	0	-

Basin	Soil Sample Number/Number of Cysts within Each Soil Sample										Hatched fairy shrimp Species
	1	2	3	4	5	6	7	8	9	10	
31	0	0	0	0	0	0	0	0	0	0	-
32	0	0	0	0	0	0	0	0	0	0	-
33	0	0	0	0	0	0	0	0	0	0	-
34	0	0	0	0	0	0	0	0	0	0	-
35	0	0	0	0	0	0	0	0	0	0	-
36	0	0	0	0	0	0	0	0	0	0	-
37	0	0	0	0	0	0	0	0	0	0	-
38	0	0	0	0	0	0	0	0	0	0	-
39	0	0	0	0	0	0	0	0	0	0	-
40	0	0	0	0	0	0	0	0	0	0	-
41	0	0	0	0	0	0	0	0	0	0	-

3.2 Vernal Pool Floral Inventory

A total of 45 basins were sampled during the floral inventory and at the time of the sampling it was reasonably expected that vernal pool plants would be present and easily identifiable (34). A total of 57 plant species were observed within the basins during the survey effort (Appendix B). No federally-listed or state-listed vernal pool plant species were observed during the 2010/2011 survey. Two vernal pool indicator species, as defined in USACE 1997, were observed within the basins: woolly marbles (*Psilocarphus brevissimus* var. *brevissimus*) and water pygmyweed (*Crassula aquatica*) (Table 7, Appendix B). Four species with special-status were observed within the survey area (Figure 3). None of these are endemic to vernal pools. A few individuals of variegated dudleya (*Dudleya variegata*), designated as a California Rare Plant Rank (CRPR) 1B.2 species by the CNPS, were observed within basins 26 and 27g. A few individuals of California box-thorn (*Lycium californicum*), designated as a CRPR 4.2, were observed within basins 27 and 27g. A few individuals of southwestern spiny rush (*Juncus acutus* ssp. l*eopoldii*), designated as a CRPR 4.2 species, were observed in basin 20e. Additionally, a large area supporting both variegated dudleya and San Diego coast barrel cactus (*Ferocactus viridescens* var. *viridescens*), a CRPR 2.1 species, was observed in the vicinity of basins 27a-27g.

Table 7. Vernal Pool Indicator Plant Species and Basin Number

Basin Number	Woolly Marbles *Psilocarphus brevissimus* var. *brevissimus*	Water Pygmyweed *Crassula aquatica*
1	X	
2	X	X
3	X	X
4	X	X
5	X	
6	X	X
8	X	
10		X

Basin Number	Woolly Marbles *Psilocarphus brevissimus* var. *brevissimus*	Water Pygmyweed *Crassula aquatica*
26	X	
27	X	
27a	X	
27b	X	
27f	X	X
27g	X	X
28	X	
29	X	X
30	X	X
31	X	X
32	X	
33	X	
34	X	

3.3 Water Chemistry

Water chemistry data was collected for eleven basins during 2011 (Table 8, Figure 4). Several basins were only surveyed once as they dried out before the second survey. The few data published on SDFS and water chemistry show that SDFS prefer a moderate pH (6.5 to 8.0) and TDS that are low (mean of 75 parts per million (ppm) (0.075 ppt) as measured by conductivity) (Eriksen and Belk 1999). There is limited published data on salinity levels that SDFS will tolerate. The five-year review suggests that SDFS occur in dilute vernal pools that have low sodium (Na+) concentrations, less than 60 millimoles per liter (1.38 ppt) (USFWS 2008). Table 9 presents the average results for all samples collected in a basin for temperature, conductivity, salinity, pH, and TDS. Complete data are included with this report as Appendix C.

Table 8. Average Water Chemistry Values for all Samples Taken

Basin Number	SDFS estimated #s	Date	Temperature (°C)	Conductivity (uS)	Salinity (ppt)	pH	TDS (ppt)
Basin 1	100s	23-Feb-11	24.4	286.9	0.1	6.7	192.2*
Basin 3	100s	14-Feb-11	24.0	0.9	0.4	7.5	0.61*
		23-Feb-11	24.7	393.2	0.2	7.0	263.4*
Basin 9	None	14-Feb-11	20.5	290.2	0.2	6.8	194.4*
		23-Feb-11	19.3	277.2	0.1	6.5	187.7*
		14-Mar-11	22.5	318.8	0.2	6.5	0.2*
		11-Apr-11	23.9	348.1	0.2	6.0	232.1*
Basin 10	1000s	14-Feb-11	22.0	2.1	1.2	7.2	1.4*
		23-Feb-11	21.4	1.9	1.0	7.0	1.3*
		14-Mar-11	23.3	2.5	1.4*	7.0	1.6*
		14-Apr-11	25.2	4.0	2.2*	7.2	2.6*

Basin Number	SDFS estimated #s	Date	Temperature (°C)	Conductivity (uS)	Salinity (ppt)	pH	TDS (ppt)
Basin 16	100s	14-Feb-11	21.2	3.0	1.7*	7.0	2.0*
		23-Feb-11	21.0	2.7	1.5*	6.5	1.8*
		14-Mar-11	23.4	3.7	2.1*	6.5	2.4*
		14-Apr-11	28.5	7.6	4.4*	7.0	4.9*
Basin 18	None	14-Feb-11	20.8	14.4	9.2*	7.1	9.6*
		23-Feb-11	17.3	13.3	8.1*	6.8	8.9*
		14-Mar-11	19.6	16.1	9.9*	7.0	10.5*
		14-Apr-11	22.3	19.5	12.3*	7.1	12.7*
Basin 20	10s	14-Feb-11	19.5	8.0	4.7*	7.0	5.3*
		23-Feb-11	23.5	3.6	2.0*	6.5	2.4*
		14-Mar-11	27.2	7.0	4.0*	7.0	4.5*
Basin 20e	10s	14-Feb-11	20.4	59.2	41.7*	7.0	39.6*
		23-Feb-11	26.3	28.2	18.3*	7.0	18.8*
		14-Mar-11	27.0	53.4	36.6*	7.5	34.6*
Basin 20en	10s	14-Feb-11	19.5	52.6	36.9*	7.2	35.2*
		23-Feb-11	24.9	31.8	20.9*		21.3*
		14-Mar-11	27.0	33.9	22.2*	7.7	22.2*
Basin 20en (north)	10s	23-Feb-11	24.9	33.3	21.9*		22.3*
Basin 21	none	23-Feb-11	21.3	10.6	6.3*	6.6	7.1*
Basin 22	none	23-Feb-11	23.8	14.7	8.9*	7.0	9.8*
Basin 23	10s	23-Feb-11	22.2	12.3	7.4*	6.6	8.2*
*outside expected tolerance levels							

Chapter 4
Discussion

For the 2010/2011 sampling, a total of 26 basins were confirmed to have SDFS (Table 9). During 2003 surveys, only 11 basins were confirmed with the species. There was also an increase in the number of basins detected at SSTC-S. The 2003 surveys identified 34 basins and the 2010/2011 surveys identified 59 basins or depressions that were potentially suitable for fairy shrimp. Of the 45 basins where a floral inventory was conducted, 22 basins contained vernal pool indicator species (Table 9). No listed vernal pool plants species were observed during the 2010/2011 survey.

There appears to be no direct correlation to vernal pool indicator species and the presence of SDFS. Thirteen basins had indicator plant species and were positive for SDFS, eight basins had indicator plant species and were negative for SDFS, 12 basins had no indicator plant species and were positive for SDFS, and 12 basins had no indicator plant species and were negative for SDFS.

A review of the salinity data indicates basins situated in the southern coastal salt marsh habitat(Basins 18, 20e, 20en) tend to have higher salinity readings than basins situated in the upland habitat (Basins 1, 3, 9) (Table 9). Basins 1, 3, and 9 are considered mostly freshwater (Salinity < 0.5 ppt), Basins 10, 16, and 20 are considered mildly brackish (Salinity between 1.0 and 5.0 ppt), Basins 18, 21, 22, and 23 are considered moderately brackish (salinity between 5.0 and 15.0 ppt), and Basin 20e and 20en are considered heavily brackish (Salinity between 15.0 and 35.0 ppt). The salinity of ocean water, on average, is between 32 to 37 ppt. Salt crystals were observed forming on the soils around Basins 18, 20e, 20en, and 21as the water evaporated later in the season. This is an indicator of the high amounts of dissolved salts in the soils surrounding these basins. However, several of the basins that had salinity levels higher than 1.38 ppt still supported a low population of SDFS. Two basins considered heavily brackish supported SDFS in low numbers, one basin considered moderately brackish supported SDFS in low numbers, three basins considered mildly brackish supported SDFS (one in the thousands, one in the hundreds and one in the tens), and two basins considered freshwater supported SDFS in the hundreds. Further research will be required to determine the correlation between the population of SDFS occurring on SSTC-S and the salinity levels of the basins.

Basin 9 appears to receive most of its water from urban runoff from the residential development south of SSTC-S. Basin 9 had a high concentration of organic material floating on the surface and suspended in the water column (Table 9). This high concentration of organic ions and possibly inorganic ions introduced from urban runoff could account for the high readings of TDS/conductivity compared to the other basins. The other basins only receive fresh water from rain events.

The pH of the sampled basins was fairly consistent within each basin. Most of the sampled basins had a pH of 7.0, with a low of 6.5 and a high of 7.5 (Table 9).

The conductivity is the measure of the ability of water to conduct electricity. TDS is the amount of mineral and salt impurities in water. In most cases conductivity is directly linked to TDS, typically the higher the conductivity of a solution the higher the TDS. Though there is a close relationship between electric conductivity and TDS, they are not the same thing. TDS and EC are two separate parameters.

Of the basins surveyed, Basins 1, 3, 9 had the highest measures of conductivity and TDS (Table 9). Basins 18, 20e and 20en had a moderate measure of conductivity and TDS (Table 9). Basins 10, 16, 20, 21, 22, and 23 had the lowest measure of conductivity and TDS (Table 9). Basin 9 had the highest measures conductivity and TDS of all surveyed basins. Basin 9 receives most of its water from urban runoff with associated pollutants and this may account for the higher readings. As water evaporated from the basins, the conductivity and TDS generally increased as the salts and TDS became more concentrated. Basins 1, 3, 10, 16, 20, 20e, 20en, and 23 supported SDFS. However, Basins 20, 20e, 20en, and 23 supported very low population densities of SDFS. Basins 9 and 18 did not support SDFS. However, several of the basins had TDS levels higher than 75 ppm and still supported a low population of SDFS. Further research will be required to determine the correlation between the population of SDFS occurring on SSTC-S and the TDS levels of the basins.

Because water chemistry data was only collected four times during the 2010/2011 survey due to site conditions, comparisons of the fairy shrimp surveys results and water chemistry results are limited. Further research and surveying will be required to document any long-term correlations between the fairy shrimp and water chemistry of the basins occurring on SSTC-S. However, some very basic trends can be drawn from the limited data set. In most cases, the higher salinity levels in the basins tend to inhibit the establishment of permanent fairy shrimp populations.

If SSTC-S is interested in determining trends for water chemistry, these parameters should be recorded as a part of their management for fairy shrimp. Trends will become evident when comparing multiple years of data. The 2010/2011 data can be used as the baseline for these future investigations. This will give good information that can be used for the long-term management of the basins found at SSTC-S.

Table 9. Combined Results

Basin Number	Fairy Shrimp	Estimated # of individuals	Vernal Pool Indicator Plants Present?	Water Salinity	Electrical Conductivity and TDS	pH (Average)
1	SDFS – wet season	100s	Yes	Freshwater	High	6.7
2	SDFS – wet season	100s	Yes	Not sampled	Not sampled	Not sampled
3	SDFS – wet season	100s	Yes	Freshwater	High	7.3
4	SDFS – wet season	100s	Yes	Not sampled	Not sampled	Not sampled
5	SDFS – dry season	10s	Yes	Not sampled	Not sampled	Not sampled
5a	None	0	Not sampled	Not sampled	Not sampled	Not sampled
6	SDFS – dry season	10s	Yes	Not sampled	Not sampled	Not sampled
7	SDFS – dry season	10s	No	Not sampled	Not sampled	Not sampled
8	SDFS – wet season	100s	Yes	Not sampled	Not sampled	Not sampled
9	None	0	No	Freshwater	High	6.5
10	SDFS – wet season	1000s	Yes	Mildly brackish	Low	7.1
13	SDFS – wet season	100s	No	Not sampled	Not sampled	Not sampled
14	SDFS – wet season	10s	Not sampled	Not sampled	Not sampled	Not sampled
15	SDFS – wet season	100s	No	Not sampled	Not sampled	Not sampled
15b	SDFS – wet season	100s	No	Not sampled	Not sampled	Not sampled
16	SDFS – wet season	100s	No	Mildly brackish	Low	6.8
17	None	0	No	Not sampled	Not sampled	Not sampled

Basin Number	Fairy Shrimp	Estimated # of individuals	Vernal Pool Indicator Plants Present?	Water Salinity	Electrical Conductivity and TDS	pH (Average)
18	None	0	No	Moderately brackish	Moderate	7
19	None	0	No	Not sampled	Not sampled	Not sampled
20	SDFS – wet season	10s	No	Mildly brackish	Low	6.8
20a	None	0	No	Not sampled	Not sampled	Not sampled
20b	None	0	No	Not sampled	Not sampled	Not sampled
20c	SDFS – wet season	10s	No	Not sampled	Not sampled	Not sampled
20d	None	0	Not sampled	Not sampled	Not sampled	Not sampled
20e	SDFS – wet season	10s	No	Heavily brackish	Moderate	7.2
20en	SDFS – wet season	10s	Not sampled	Heavily brackish	Moderate	7.5
21	None	0	No	Moderately brackish	Low	6.6
22	None	0	No	Moderately brackish	Low	7
23	SDFS – wet season	10s	No	Moderately brackish	Low	6.6
24	None	0	No	Not sampled	Not sampled	Not sampled
26	SDFS – dry season	10s	Yes	Not sampled	Not sampled	Not sampled
27	None	0	Yes	Not sampled	Not sampled	Not sampled
27a	SDFS – wet season	100s	Yes	Not sampled	Not sampled	Not sampled
27b	SDFS – dry season	10s	Yes	Not sampled	Not sampled	Not sampled
27c	SDFS – dry season	10s	No	Not sampled	Not sampled	Not sampled
27d	SDFS – wet season	10s	No	Not sampled	Not sampled	Not sampled
27e	SDFS – wet season	10s	No	Not sampled	Not sampled	Not sampled
27f	SDFS	10s	Yes	Not sampled	Not sampled	Not sampled
27g	SDFS – dry season	10s	Yes	Not sampled	Not sampled	Not sampled
28	None	0	Yes	Not sampled	Not sampled	Not sampled
28b	None	0	Not sampled	Not sampled	Not sampled	Not sampled
29	None	0	Yes	Not sampled	Not sampled	Not sampled
30	None	0	Yes	Not sampled	Not sampled	Not sampled
31	None	0	Yes	Not sampled	Not sampled	Not sampled
32	None	0	Yes	Not sampled	Not sampled	Not sampled
33	None	0	Yes	Not sampled	Not sampled	Not sampled
34	None	0	Yes	Not sampled	Not sampled	Not sampled
35	None	0	Not sampled	Not sampled	Not sampled	Not sampled
36	None	0	No	Not sampled	Not sampled	Not sampled
37	None	0	Not sampled	Not sampled	Not sampled	Not sampled
38	None	0	Not sampled	Not sampled	Not sampled	Not sampled
39	None	0	Not sampled	Not sampled	Not sampled	Not sampled
40	None	0	No	Not sampled	Not sampled	Not sampled
41	None	0	No	Not sampled	Not sampled	Not sampled

Chapter 5
References

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Appendix A
Figures

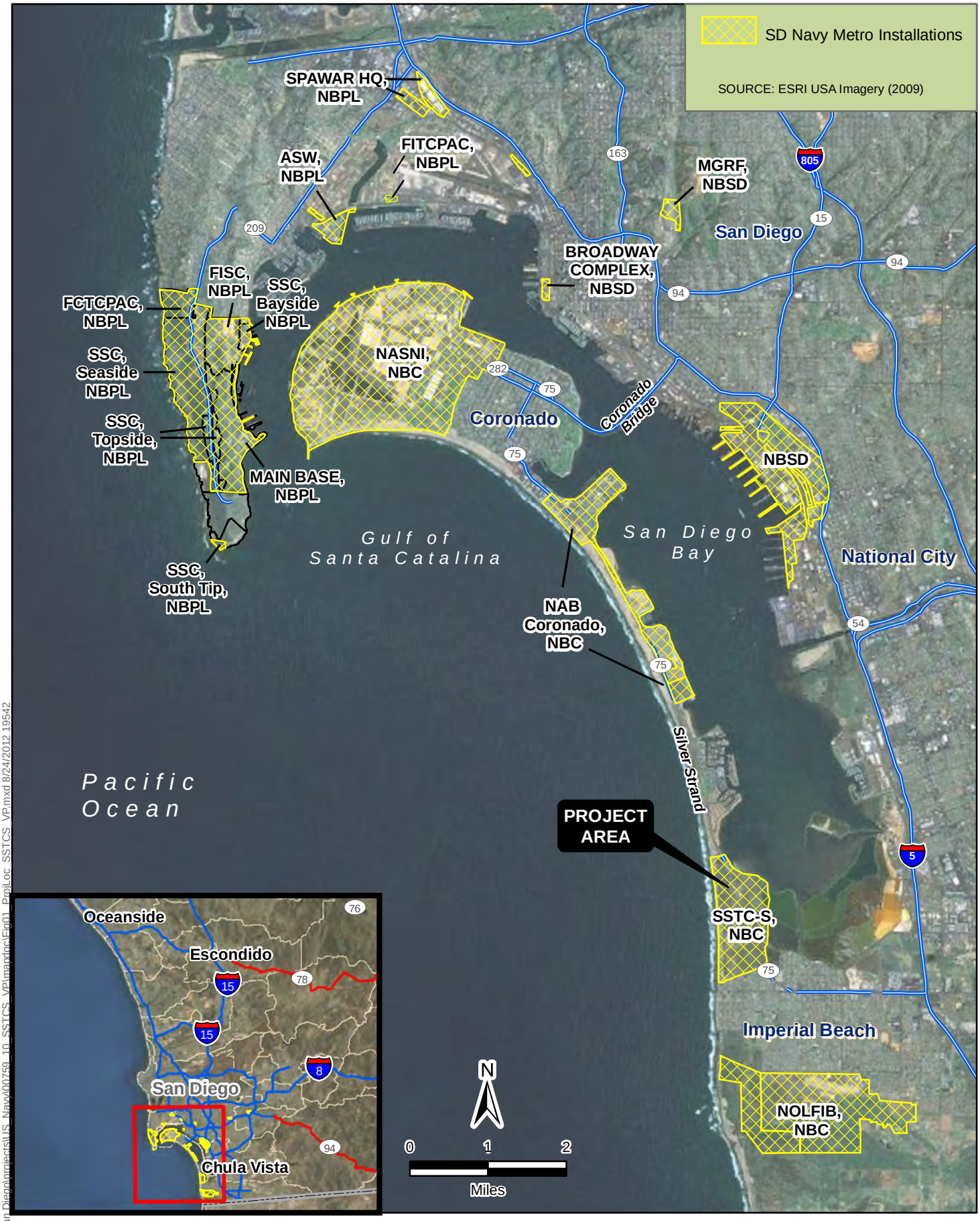

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Figure 1
Project Location
Vernal Pool 2010/2011 Surveys
Silver Strand Training Complex - South Naval Base Coronado

Project Boundary

Vernal Pools

San Diego Fairy Shrimp Present During 2010/2011 Survey and Previous Years*

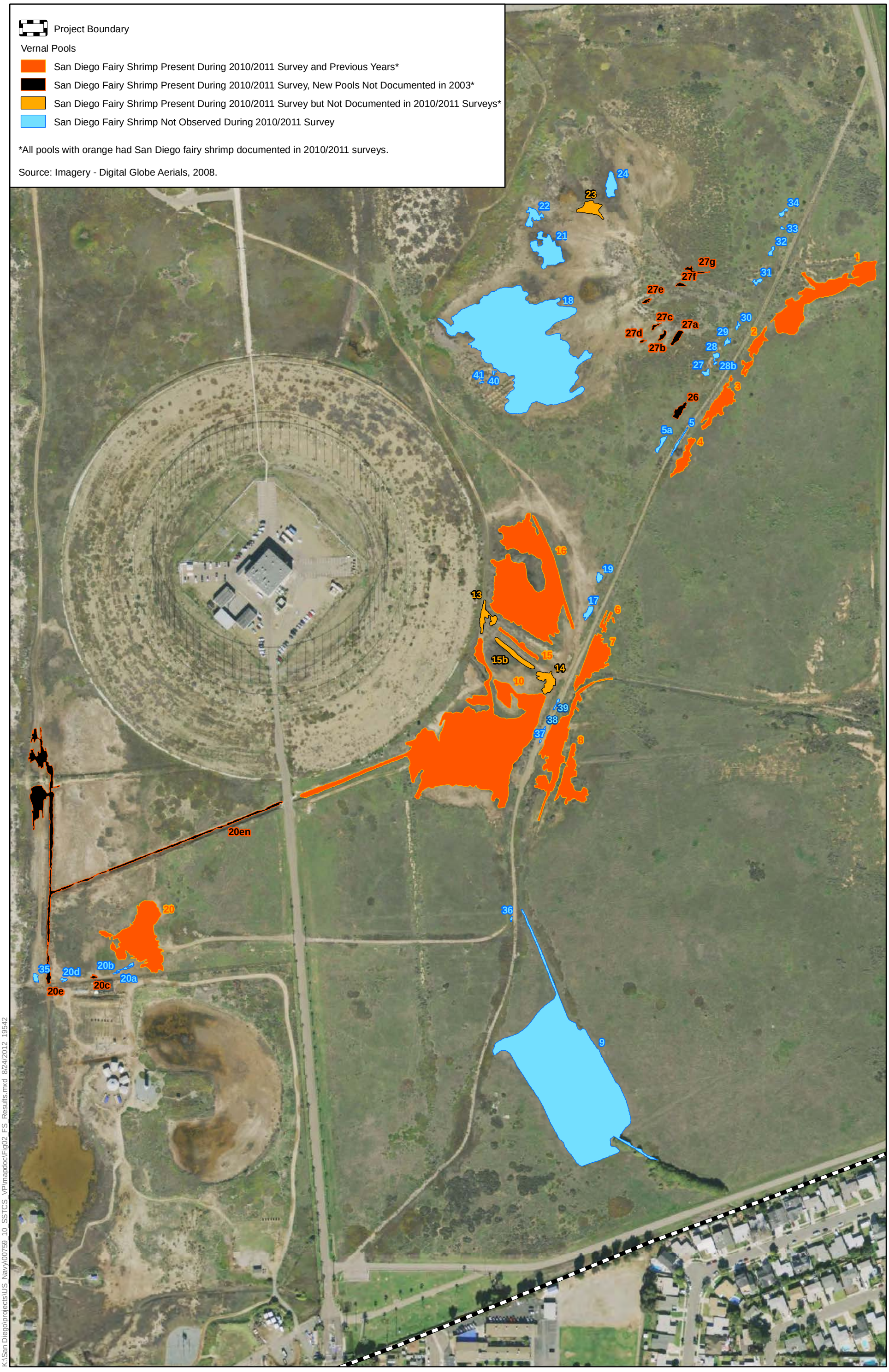
San Diego Fairy Shrimp Present During 2010/2011 Survey, New Pools Not Documented in 2003*

San Diego Fairy Shrimp Present During 2010/2011 Survey but Not Documented in 2010/2011 Surveys*

San Diego Fairy Shrimp Not Observed During 2010/2011 Survey

*All pools with orange had San Diego fairy shrimp documented in 2010/2011 surveys.

Source: Imagery - Digital Globe Aerials, 2008.



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ICF INTERNATIONAL

Figure 2
Fairy Shrimp Results
Vernal Pool 2010/2011 Surveys
Silver Strand Training Complex - South Naval Base Coronado

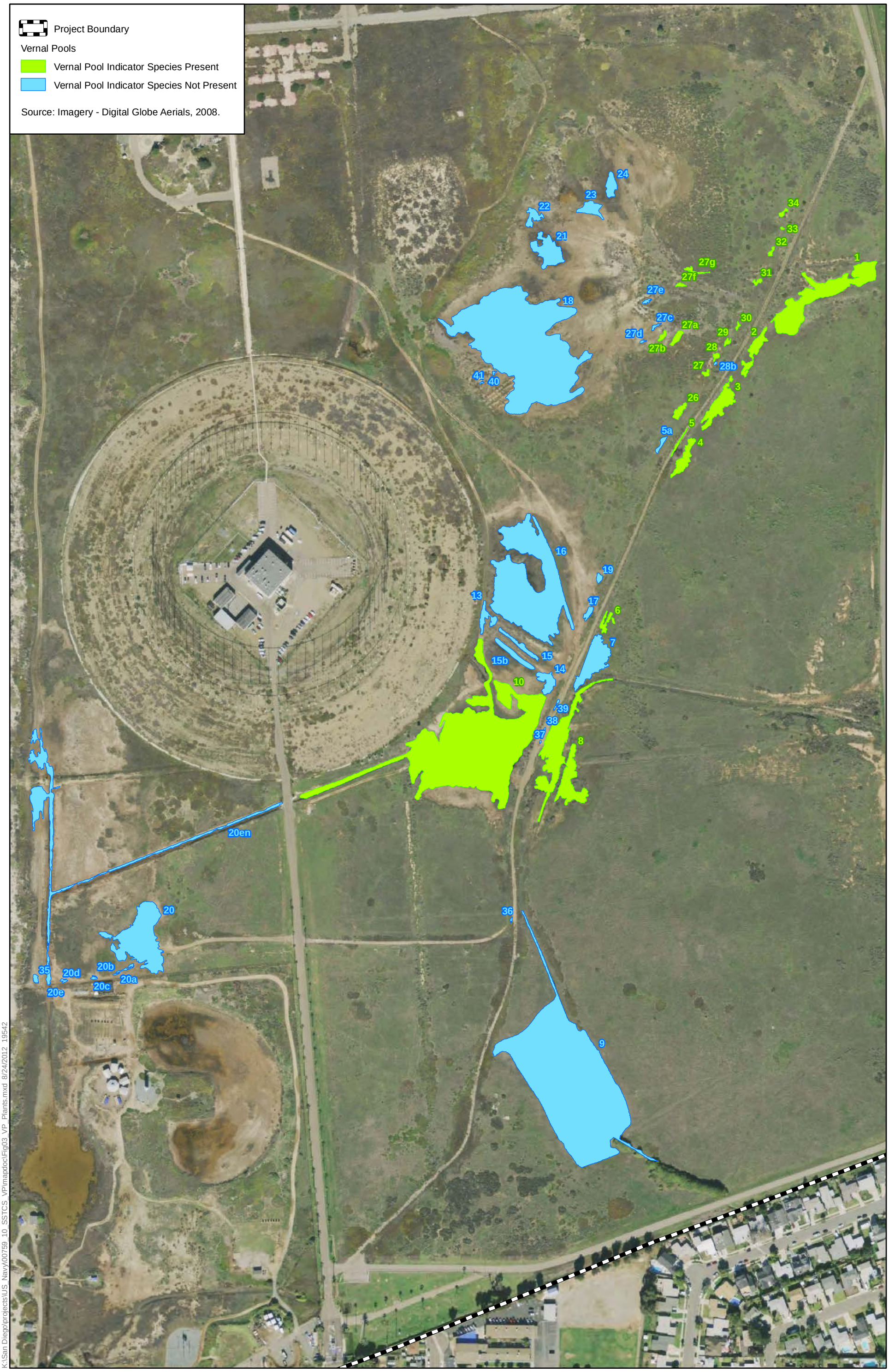
Project Boundary

Vernal Pools

Vernal Pool Indicator Species Present

Vernal Pool Indicator Species Not Present

Source: Imagery - Digital Globe Aerials, 2008.



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ICF INTERNATIONAL

Figure 3
Vernal Pool Floral Inventory Results
Vernal Pool 2010/2011 Surveys
Silver Strand Training Complex - South Naval Base Coronado

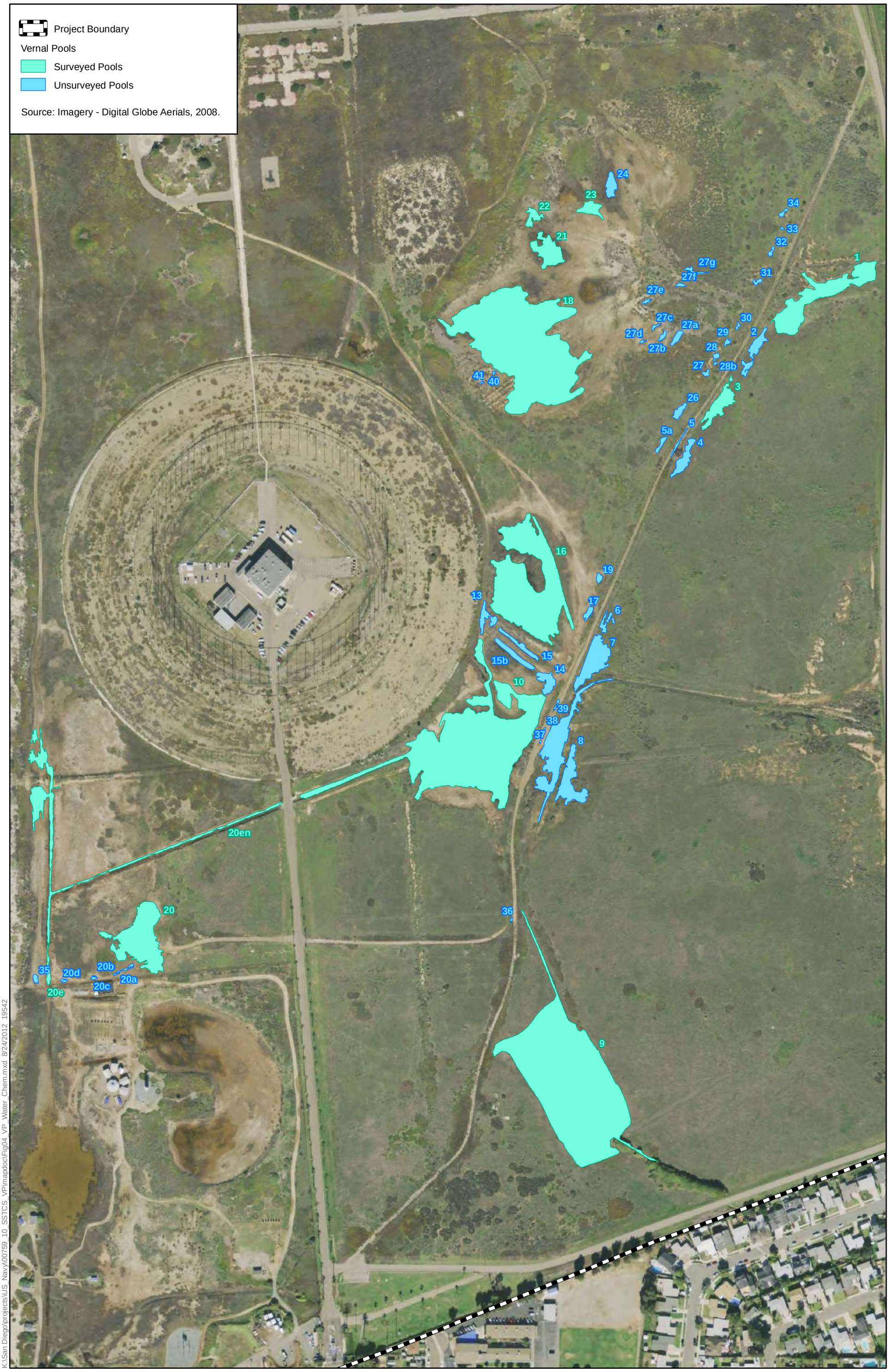
Project Boundary

Vernal Pools

Surveyed Pools

Unsurveyed Pools

Source: Imagery - Digital Globe Aerials, 2008.



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ICF INTERNATIONAL

Figure 4
Water Chemistry Results
Vernal Pool 2010/2011 Surveys
Silver Strand Training Complex - South Naval Base Coronado

Appendix B
2011 Photo Book

	Photo 1 Location: SSTC-S Subject: Basins 1 and 2-looking northeast Photographer: D. Allen Date: December 23, 2010
	Photo 2 Location: SSTC-S Subject: Basin 3-looking south Photographer: D. Allen Date: December 23, 2010
	Photo 3 Location: SSTC-S Subject: Basin 4-looking north Photographer: D. Allen Date: December 23, 2010

	Photo 4 Location: SSTC-S Subject: Basin 5-looking south Photographer: D. Allen Date: December 23, 2010
	Photo 5 Location: SSTC-S Subject: Basin 5a-looking north Photographer: D. Allen Date: January 4, 2011
	Photo 6 Location: SSTC-S Subject: Basin 6-looking south Photographer: P. Schwartz Date: April 11, 2011

	Photo 7 Location: SSTC-S Subject: Basin 7-looking north Photographer: P. Schwartz Date: April 11, 2011
	Photo 8 Location: SSTC-S Subject: Basin 8-looking northeast Photographer: D. Allen Date: December 23, 2010
	Photo 9 Location: SSTC-S Subject: Basin 9-looking southwest Photographer: D. Allen Date: April 25, 2011

	Photo 10 Location: SSTC-S Subject: Basin 10-looking southeast Photographer: D. Allen Date: January 3, 2011
	Photo 11 Location: SSTC-S Subject: Basin 13-looking northwest Photographer: D. Allen Date: January 3, 2010
	Photo 12 Location: SSTC-S Subject: Basin 14-looking north Photographer: D. Allen Date: February 28, 2011

	Photo 13 Location: SSTC-S Subject: Basin 15-looking west Photographer: D. Allen Date: January 3, 2011
	Photo 14 Location: SSTC-S Subject: Basin 16-looking northwest Photographer: D. Allen Date: January 3, 2011
	Photo 15 Location: SSTC-S Subject: Basin 17-lookinh northwest Photographer: D. Allen Date: December 23, 2010

	Photo 16 Location: SSTC-S Subject: Basin 18-looking southeast Photographer: D. Allen Date: January 18, 2011
	Photo 17 Location: SSTC-S Subject: Basin 19-looking northwest Photographer: D. Allen Date: January 3, 2010
	Photo 18 Location: SSTC-S Subject: Basin 20-looking west Photographer: D. Allen Date: January 18, 2011

	Photo 19 Location: SSTC-S Subject: Basin 20a and 20b-looking east Photographer: D. Allen Date: January 3, 2011
	Photo 20 Location: SSTC-S Subject: Basin 20c-looking west Photographer: D. Allen Date: January 3, 2011
	Photo 21 Location: SSTC-S Subject: Basin 20e-looking south Photographer: D. Allen Date: January 18, 2011

	Photo 22 Location: SSTC-S Subject: Basin 20en-North-looking northwest Photographer: D. Allen Date: February 23, 2011
	Photo 23 Location: SSTC-S Subject: Basin 21-looking south Photographer: D. Allen Date: February 28, 2011
	Photo 24 Location: SSTC-S Subject: Basin 22-looking west Photographer: D. Allen Date: February 23, 2011

	Photo 25 Location: SSTC-S Subject: Basin 23-looking west Photographer: D. Allen Date: March 28, 2011
	Photo 26 Location: SSTC-S Subject: Basin 24-looking northeast Photographer: D. Allen Date: March 28, 2011
	Photo 27 Location: SSTC-S Subject: Basin 26-looking northeast Photographer: D. Allen Date: January 4, 2011

	Photo 28 Location: SSTC-S Subject: Basin 27-looking north Photographer: D. Allen Date: January 4, 2011
	Photo 29 Location: SSTC-S Subject: Basin 27a-looking northeast Photographer: D. Allen Date: January 4, 2011
	Photo 30 Location: SSTC-S Subject: Basin 27b-looking northeast Photographer: D. Allen Date: January 4, 2010

	Photo 31 Location: SSTC-S Subject: Basin 27c-looking north Photographer: D. Allen Date: January 4, 2011
	Photo 32 Location: SSTC-S Subject: Basin 27d-looking northeast Photographer: D. Allen Date: January 4, 2011
	Photo 33 Location: SSTC-S Subject: Basin 27e-looking northeast Photographer: D. Allen Date: January 4, 2011

	Photo 34 Location: SSTC-S Subject: Basin 27f-looking east Photographer: D. Allen Date: January 4, 2011
	Photo 35 Location: SSTC-S-looking east Subject: Basin 27g Photographer: D. Allen Date: January 4, 2011
	Photo 36 Location: SSTC-S Subject: Basin 28-looking north Photographer: D. Allen Date: January 4, 2011

	Photo 37 Location: SSTC-S Subject: Basin 29-looking north Photographer: D. Allen Date: August 17, 2011
	Photo 38 Location: SSTC-S Subject: Basin 30-looking south Photographer: D. Allen Date: August 17, 2011
	Photo 39 Location: SSTC-S Subject: Basin 31-looking north Photographer: D. Allen Date: January 4, 2011

	Photo 40 Location: SSTC-S Subject: Basin 32-looking north Photographer: D. Allen Date: January 4, 2011
	Photo 41 Location: SSTC-S Subject: Basin 33-looking north Photographer: D. Allen Date: January 4, 2011
	Photo 42 Location: SSTC-S Subject: Basin 34-looking northeast Photographer: D. Allen Date: January 4, 2011

	Photo 43 Location: SSTC-S Subject: Basin 36-looking southwest Photographer: D. Allen Date: February 28, 2011
	Photo 44 Location: SSTC-S Subject: Basins 37 and 38-looking north Photographer: D. Allen Date: February 28, 2011
	Photo 45 Location: SSTC-S Subject: Basin 39-looking north Photographer: D. Allen Date: February 28, 2011

	Photo 46 Location: SSTC-S Subject: Basin 40 Photographer: D. Allen-looking northwest Date: August 17, 2011
	Photo 47 Location: SSTC-S Subject: Basin 41-looking southwest Photographer: D. Allen Date: August 17, 2011
	Photo 48 Location: SSTC-S Subject: Salt Crystals in Basin 18 Photographer: D. Allen Date: February 14, 2011

Appendix C
Vernal Pool Plant List

Species	Basin																																												
	1	2	3	4	5	6	7	8	9	10	13	15	15b	16	17	18	19	20	20a	20b	20c	20e	21	22	23	24	26	27	27a	27b	27c	27d	27e	27f	27g	28	29	30	31	32	33	34	36	40	41
Eleocharis macrostachya	X	X	X	X					X																			X								X			X				x		
Bolboschoenus maritimus ssp. *paludosus*			X							X			X	X																															
Juncus acutus ssp. *leopoldii*																						X																							
Juncus bufonius							X			X								X									X		X					X	X										
*Bromus diandrus**	X	X			X	X	X																				X		X						X			X	X				x		
*Bromus hordeaceus**	X	X				X																					X	X									X	X	X	X	X	X	x		
Bromus madritensis ssp. *rubens**	X	X		X	X	X																					X							X	X		X	X			X	X			
*Cynodon dactylon**									X																																				
Distichlis spicata	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X					X	X			X		X														X			
*Hordeum murinum**		X				X	X										X																			X	X								
*Lolium perenne**									X																																				
Monanthochloe littoralis																X						X	X			X																			
*Polypogon monospeliensis**							X	X	X	X	X	X	X	X				X																											
*Schismus barbatus**				X																																									
*Vulpia myorus**	X	X			X	X	X																					X							X		X	X	X				X		
*Carpobrotus chilensis**														X																						X									
*Mesembryanthemum nodiflorum**				X		X	X	X			X		X	X	X	X	X	X	X					X					X	X	X	X	X	X	X				X			X		X	X
*Tetragonia tetragonioides**																X																													
*Atriplex semibaccata**																																				X		X							
Atriplex watsonii							X										X																												
Sarcocornia pacifica						X	X	X		X	X	X	X	X	X	X	X	X				X	X	X	X	X		X	X	X	X	X	X	X		X	X							X	X
Amblyopappus pusillus										X								X																											
Baccharis sarothroides	X																																												
*Centaurea melitensis**				X	X																																					X			
*Cotula coronopifolia**	X	X	X	X	X			X		X		X	X	X	X			X								X			X	X	X	X	X	X	X								x		
Dienandra fasciculata	X	X	X							X								X										X										X	X	X	X	X	x		
Gnaphalium palustre									X																		X																x		
*Hypochaeris glabra**																											X																		
Isocoma menziesii	X	X	X	X	X	X		X																			X	X	X	X				X	X	X	X	X	X	X	X	X			
Psilocarphus brevissimus var. *brevissimus !*	X	X	X	X	X	X		X																			X	X	X	X				X	X	X	X	X	X	X	X	X			
Sonchus asper ssp. *asper**	X	X			X							X		X		X															X											X			
Lepidium dictyotum var. *dictyotum*																														X		X													
Cylindropuntia prolifera																												X							X	X									
Sagina decumbens ssp. *occidentalis*									X																																				
*Spergularia bocconi**				X			X	X																			X	X		X	X			X		X	X	X	X				x		
Spergularia macrotheca var. *macrotheca*	X	X				X	X								X		X										X	X												X	X				
Cressa truxillensis	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X					X	X	X	X		X	X	X	X	X		X	X		X	X	X	X	X	X		X	X
Cuscuta salina				X				X		X				X																															
Crassula aquatica !		X	X	X		X				X																								X	X		X	X	X						
Crassula connata							X	X																																					
Dudleya variegata																											X								X										
Astragalus trichopodus										X																																			
*Melilotus indicus**							X			X			X															X			X			X			X								
Trifolium depauperatum var. *amplectens*			X	X																																									
Frankenia salina	X	X		X		X	X	X	X	X	X	X	X	X	X	X		X					X		X	X	X								X	X		X	X	X		X			
*Erodium cicutarium**	X	X			X	X	X																				X	X							X		X	X	X	X	X	X	x		
*Erodium moschatum**																																								X					
Heliotropium curassavicum				X			X			X								X										X																	

Species	Basin																																											
	1	2	3	4	5	6	7	8	9	10	13	15	15b	16	17	18	19	20	20a	20b	20c	20e	21	22	23	24	26	27	27a	27b	27c	27d	27e	27f	27g	28	29	30	31	32	33	34	36	40	41
*Lythrum hyssopifolia**	X	X	X	X	X	X		X	X	X	X	X	X															X	X	X	X	X		X	X	X	X		X	X	X	X	X		
Malva leprosa	X								X																																				
*Malva parviflora**										X																																			
Plantago erecta	X	X	X			X	X								X												X		X	X	X	X					X								
*Rumex crispus**	X	X	X	X				X	X	X		X	X	X														X																	
*Portulaca oleracea**								X																																					
Lycium californicum																												X							X										
Solanum douglasii								X																																					
*Tamarix ramosissima**							X																																						

* - non-native species
! - vernal pool indicator plant

Appendix D
Water Chemistry Data

Basin Number	Date	Sample No.	Temperature (°C)	Conductivity (uS)	Salinity (ppt)	pH	TDS (ppt)
Basin 1	23-Feb-11	1	24.1	278.7	0.1	6.5	186.7
	23-Feb-11	2	24.3	283.4	0.1	6.5	189.8
	23-Feb-11	3	25.5	290.2	0.1	6.5	194.4
	23-Feb-11	4	25.3	293.5	0.1	6.5	196.6
	23-Feb-11	5	22.4	288.8	0.1	7	193.4
	23-Feb-11	6	24.9	286.8	0.1	7	193.1
Basin 3	14-Feb-11	1	24.5	0.999	0.5	7.5	0.66
	14-Feb-11	2	23.7	1.023	0.5	7.5	0.68
	14-Feb-11	3	23.7	0.545	0.3	7.5	0.36
	23-Feb-11	1	23.7	422.4	0.2	7	283
	23-Feb-11	2	25.1	355.4	0.2	7	283.1
	23-Feb-11	3	24.9	329.9	0.2	7	221
	23-Feb-11	4	25.2	465	0.2	7	311.5
Basin 9	14-Feb-11	1	18.8	307.1	0.2	6.5	205.7
	14-Feb-11	2	20	290.2	0.2	6.5	194.4
	14-Feb-11	3	21	346.5	0.2	6.5	232.1
	14-Feb-11	4	20.9	347	0.2	6.5	232.9
	14-Feb-11	5	20.2	355	0.2	7	237.8
	14-Feb-11	6	20.9	0.4	0.2	7	0.26
	14-Feb-11	7	20.8	333	0.2	7	223.1
	14-Feb-11	8	21.4	342.1	0.2	7	229.2
	23-Feb-11	1	17	270.9	0.1	6.5	181.5
	23-Feb-11	2	15.3	276.4	0.1	6.5	185.1
	23-Feb-11	3	19.6	278.9	0.1	6.5	186.8
	23-Feb-11	4	20.5	299.8	0.2	6.5	200.8
	23-Feb-11	5	19.7	298.4	0.2	6.5	199.9
	23-Feb-11	6	20.2	291.3	0.1	6.5	195.1
	23-Feb-11	7	20.8	188.8	0.1	6.5	126.4
	23-Feb-11	8	20.6	286.3	0.1	6.5	189.8
	23-Feb-11	9	20.3	290.6	0.1	6.5	194.7
	23-Feb-11	10	19.2	290.5	0.1	6.5	194.7
	14-Mar-11	1	19.2	345.9	0.2	6.5	0.221
	14-Mar-11	2	17.9	267.3	0.1	6.5	0.174
	14-Mar-11	3	22.9	334.9	0.2	6.5	0.217
	14-Mar-11	4	22.8	332.6	0.2	6.5	0.218
	14-Mar-11	5	17.8	266.8	0.1	6.5	0.174
	14-Mar-11	6	22.9	331.5	0.2	6.5	0.215
	14-Mar-11	7	25.5	318.8	0.2	6.5	0.204
	14-Mar-11	8	23.3	329.2	0.2	6.5	0.214

Basin Number	Date	Sample No.	Temperature (°C)	Conductivity (uS)	Salinity (ppt)	pH	TDS (ppt)
	14-Mar-11	9	22.9	332.1	0.2	6.5	0.216
	14-Mar-11	10	29.9	329	0.2	6.5	0.214
	11-Apr-11	1	21.5	289.8	0.1	6	0.19
	11-Apr-11	2	21.3	270.9	0.1	6	0.1759
	11-Apr-11	3	23.7	352.9	0.2	6	0.2281
	11-Apr-11	4	24.1	370.1	0.2	6	0.2399
	11-Apr-11	5	24	370.8	0.2	6	0.2406
	11-Apr-11	6	24	369.5	0.2	6	0.2402
	11-Apr-11	7	24.7	368.7	0.2	6	0.2385
	11-Apr-11	8	25.3	375.3	0.2	6	0.2434
	11-Apr-11	9	24.5	358.6	0.2	6	2319
	11-Apr-11	10	25.6	353.9	0.2	6	0.2297
Basin 10	14-Feb-11	1	22.3	2.318	1.2	7.5	1.5
	14-Feb-11	2	22	2.317	1.2	7	1.5
	14-Feb-11	3	22.9	2.337	1.3	7.5	1.5
	14-Feb-11	4	22	2.338	1.3	7.5	1.5
	14-Feb-11	5	21.3	2.279	1.3	7	1.5
	14-Feb-11	6	21.7	0.343	1.3	7.5	1.5
	14-Feb-11	7	21.4	2.292	1.2	7	1.5
	14-Feb-11	8	20.8	0.333	1.3	7	1.5
	14-Feb-11	9	22.5	2.282	1.2	7	1.5
	14-Feb-11	10	22.3	2.337	1.3	7.5	1.5
	14-Feb-11	11	21.7	2.207	1.2	7	1.5
	14-Feb-11	12	23.6	2.323	1.2	7	1.5
	14-Feb-11	13	23	2.305	1.2	7	1.5
	14-Feb-11	14	23.2	2.301	1.2	7	1.5
	14-Feb-11	15	21.3	2.266	1.2	7.5	1.5
	14-Feb-11	16	21.6	2.317	1.2	7.5	1.5
	14-Feb-11	17	22.2	2.313	1.2	7.5	1.5
	14-Feb-11	18	22.2	2.318	1.2	7.5	1.5
	14-Feb-11	19	21.1	2.348	1.3	7	1.5
	14-Feb-11	20	21.8	2.318	1.2	7	1.5
	23-Feb-11	1	20.9	1.96	1.1	7	1.3
	23-Feb-11	2	22.3	1.947	1	7	1.2
	23-Feb-11	3	20.4	1.95	1	7	1.3
	23-Feb-11	4	22.4	1.882	1	7	1.2
	23-Feb-11	5	20.9	1.81	1	7	1.2
	23-Feb-11	6	21	1.863	1	7	1.2
	23-Feb-11	7	21	1.875	1	7	1.2

Basin Number	Date	Sample No.	Temperature (°C)	Conductivity (uS)	Salinity (ppt)	pH	TDS (ppt)
	23-Feb-11	8	21.3	1.901	1	7	1.2
	23-Feb-11	9	22	1.961	1	7	1.2
	23-Feb-11	10	21.8	1.473	0.8	7	0.9
	14-Mar-11	1	23.4	2.49	1.3	7	1.62
	14-Mar-11	2	22.8	2.5	1.3	7	1.62
	14-Mar-11	3	22.2	2.49	1.3	7	1.62
	14-Mar-11	4	22.2	2.49	1.3	7	1.62
	14-Mar-11	5	22.3	2.51	1.4	7	1.63
	14-Mar-11	6	26.3	2.54	1.4	7	1.65
	14-Mar-11	7	23.8	2.53	1.4	7	1.64
	14-Mar-11	8	22.6	2.51	1.4	7	1.63
	14-Mar-11	9	23.6	2.51	1.4	7	1.63
	14-Mar-11	10	23.8	2.52	1.4	7	1.65
	11-Apr-11	1	25.8	3.89	2.1	7	2.525
	11-Apr-11	2	25.2	3.93	2.2	7	2.548
	11-Apr-11	3	25	3.99	2.2	7	2.607
	11-Apr-11	4	24.6	3.88	2.1	7	2.513
	11-Apr-11	5	24.1	3.91	2.2	7.5	2.542
	11-Apr-11	6	25.5	4.1	2.3	7.5	2.655
	11-Apr-11	7	25.5	3.81	2.1	7	2.473
	11-Apr-11	8	24.3	4.12	2.3	7.5	2.687
	11-Apr-11	9	27.5	4.03	2.2	7	2.624
	11-Apr-11	10	24.8	4.01	2.2	7	2.602
Basin 16	14-Feb-11	1	21.1	3.045	1.7	7	2.0
	14-Feb-11	2	21.1	3.041	1.7	7	2.0
	14-Feb-11	3	21.8	3.042	1.7	7	2.0
	14-Feb-11	4	22.4	3.047	1.7	7	2.0
	14-Feb-11	5	21.6	3.027	1.7	7	2.0
	14-Feb-11	6	21.4	3.028	1.7	7	2.0
	14-Feb-11	7	20.7	3.027	1.7	7	2.0
	14-Feb-11	8	20.9	3.036	1.7	7	2.0
	14-Feb-11	9	20.5	3.032	1.7	7	2.0
	14-Feb-11	10	20.5	3.021	1.7	7	2.0
	23-Feb-11	1	19.4	2.781	1.5	6.5	1.8
	23-Feb-11	2	20.6	2.822	1.5	6.5	1.8
	23-Feb-11	3	22.4	2.861	1.6	6.5	1.9
	23-Feb-11	4	21.6	2.109	1.1	6.5	1.4
	23-Feb-11	5	20	2.705	1.5	6.5	1.8
	23-Feb-11	6	20	2.533	1.4	6.5	1.6

Basin Number	Date	Sample No.	Temperature (°C)	Conductivity (uS)	Salinity (ppt)	pH	TDS (ppt)
	23-Feb-11	7	20.6	2.727	1.5	6.5	1.8
	23-Feb-11	8	21.3	2.841	1.5	6.5	1.9
	23-Feb-11	9	22.2	2.849	1.6	6.5	1.9
	23-Feb-11	10	21.6	2.8	1.5	6.5	1.8
	14-Mar-11	1	22.8	3.71	2.1	6.5	2.41
	14-Mar-11	2	22.7	3.58	2	6.5	2.33
	14-Mar-11	3	26.8	3.81	2.1	6.5	2.48
	14-Mar-11	4	25.7	3.79	2.1	6.5	2.46
	14-Mar-11	5	22.5	3.75	2.1	6.5	2.44
	14-Mar-11	6	22.3	3.73	2.1	6.5	2.24
	14-Mar-11	7	21.6	3.72	2.1	6.5	2.42
	14-Mar-11	8	23.7	3.73	2.1	6.5	2.42
	14-Mar-11	9	22.1	3.71	2.1	6.5	2.41
	14-Mar-11	10	23.4	3.72	2	6.5	2.41
	11-Apr-11	1	28.5	7.52	4.5	7	4.65
	11-Apr-11	2	28.4	7.49	4.3	7	4.87
	11-Apr-11	3	28.9	6.79	3.9	7	4.42
	11-Apr-11	4	28.3	8.14	4.7	7	5.31
	11-Apr-11	5	28.4	8.17	4.7	7	5.31
Basin 18	14-Feb-11	1	19.7	13.77	8.9	7	9.2
	14-Feb-11	2	19.1	13.61	9	7	9.1
	14-Feb-11	3	19	13.55	14.62	7	9.0
	14-Feb-11	4	19.7	13.72	9	7	9.1
	14-Feb-11	5	19.6	14.65	9	7	9.8
	14-Feb-11	6	19	13.56	8.9	7	9.0
	14-Feb-11	7	19.1	14.6	8.9	7	9.7
	14-Feb-11	8	21.1	14.75	9	7	9.8
	14-Feb-11	9	22	14.76	9	7	9.8
	14-Feb-11	10	22.2	14.56	8.9	7.5	9.7
	14-Feb-11	11	22	14.58	8.9	7.5	9.7
	14-Feb-11	12	22.1	14.81	9	7.5	9.9
	14-Feb-11	13	20.7	14.69	9	7	9.8
	14-Feb-11	14	21.4	14.82	9.1	7	9.9
	14-Feb-11	15	22.2	14.96	9.1	7	10
	14-Feb-11	16	21.5	14.82	9.1	7	9.9
	14-Feb-11	17	21.6	13.84	8.4	7	9.2
	14-Feb-11	18	21.3	14.87	9.1	7	9.9
	14-Feb-11	19	21.2	14.72	9	7	9.8
	14-Feb-11	20	21	14.68	9	7	9.8

Basin Number	Date	Sample No.	Temperature (°C)	Conductivity (uS)	Salinity (ppt)	pH	TDS (ppt)
	23-Feb-11	1	17.4	13.33	8.1	7	8.9
	23-Feb-11	2	17.9	13.5	8.2	7	9.0
	23-Feb-11	3	16.1	13.33	8.1	7	8.9
	23-Feb-11	4	15.7	13.37	8.2	7	8.9
	23-Feb-11	5	16.9	13.43	8.2	7	8.9
	23-Feb-11	6	16	13.38	8.2	6.5	8.9
	23-Feb-11	7	15.9	13.37	8.2	6.5	8.9
	23-Feb-11	8	16.2	13.38	8.2	6.5	8.9
	23-Feb-11	9	15.9	13.37	8.2	6.5	8.9
	23-Feb-11	10	17.9	13.46	8.2	6.5	8.9
	23-Feb-11	11	19.8	13.54	8.2	7	8.9
	23-Feb-11	12	18.9	13.43	8.2	7	8.9
	23-Feb-11	13	16.7	13.4	8.2	6.5	8.9
	23-Feb-11	14	18.6	13.54	8.3	6.5	8.9
	23-Feb-11	15	19.1	12.03	7.3	7	8.0
	14-Mar-11	1	19.1	15.35	9.4	7	9.97
	14-Mar-11	2	18.3	16.32	10.1	7	10.61
	14-Mar-11	3	19.4	16.42	10.1	7	10.67
	14-Mar-11	4	18.3	16.33	10.1	7	10.6
	14-Mar-11	5	18.9	16.39	10.1	7	10.66
	14-Mar-11	6	20.3	16.42	10.2	7	10.68
	14-Mar-11	7	20.4	15.89	9.8	7	10.32
	14-Mar-11	8	19.3	15.94	9.8	7	10.39
	14-Mar-11	9	20.8	15.88	9.8	7	10.33
	14-Mar-11	10	21.3	16.1	9.9	7	10.48
	11-Apr-11	1	20.3	23.77	15.2	7	15.41
	11-Apr-11	2	18.7	23.09	14.7	7	14.97
	11-Apr-11	3	19.6	23.04	14.7	7	14.99
	11-Apr-11	4	18.7	23.38	14.9	7	15.2
	11-Apr-11	5	18.4	21.5	13.6	7.5	13.98
	11-Apr-11	6	19.9	23.16	14.8	7.5	15.07
	11-Apr-11	7	20.9	22.54	14.3	7	14.6
	11-Apr-11	8	20.3	23.5	14.9	7	15.19
	11-Apr-11	9	23.9	22.52	14.2	7	14.62
	11-Apr-11	10	23.4	23.58	15	7	15.3
Basin 20	14-Feb-11	1	19.6	8.38	4.9	7	5.6
	14-Feb-11	2	19.6	7.76	4.5	7	5.1
	14-Feb-11	3	19.4	7.8	4.6	7	5.2
	23-Feb-11	1	23	2.644	1.4	6.5	1.7

Basin Number	Date	Sample No.	Temperature (°C)	Conductivity (uS)	Salinity (ppt)	pH	TDS (ppt)
	23-Feb-11	2	23.4	4.088	2.3	6.5	2.7
	23-Feb-11	3	23.5	3.812	2.1	6.5	2.5
	23-Feb-11	4	23.9	3.814	2.1	6.5	2.5
	14-Mar-11	1	27	7.02	4	7	4.56
	14-Mar-11	2	27.1	6.98	4	7	4.52
	14-Mar-11	3	27.6	7.01	4	7	4.56
Basin 20e	14-Feb-11	1	20.6	58.6	41.2	7	39.4
	14-Feb-11	2	20.8	59.2	41.7	7	39.6
	14-Feb-11	3	19.7	59.7	42.1	7	39.9
	23-Feb-11	1	26.3	34.91	23	7	23.3
	23-Feb-11	2	29.4	18.95	11.7	7	12.6
	23-Feb-11	3	24.9	33.16	21.7	7	22.2
	23-Feb-11	4	24.4	25.93	16.6	7	17.7
	14-Mar-11	1	27	53.4	36.6	7.5	34.6
Basin 20en	14-Feb-11	1	19.1	42.72	28.9	7	28.6
	14-Feb-11	2	19	42.91	29.1	7	28.7
	14-Feb-11	3	19.9	42.11	28.5	7	28.2
	14-Feb-11	4	19.1	42.13	28.5	7.5	28.2
	14-Feb-11	5	18.8	42.08	28.5	7	28.1
	14-Feb-11	6	22.4	60.2	42.2	7.5	40.3
	14-Feb-11	7	19.6	60.2	44.7	7.5	40.3
	14-Feb-11	8	19.3	66.7	47.9	7	44.6
	14-Feb-11	9	19	63.5	45.3	7	42.5
	14-Feb-11	10	19	63.6	45.5	7	42.6
	23-Feb-11	1	26.6	32	20.7	7	21.4
	23-Feb-11	2	23	23.75	15.1	7	15.9
	23-Feb-11	3	23	23.11	14.8	7	15.4
	23-Feb-11	4	26.9	48.5	33	7	32.4
	14-Mar-11	1	27	31.05	20.2	8	20.8
	14-Mar-11	2	27.3	35.72	23.5	7.5	23.2
	14-Mar-11	3	26.7	34.95	22.9	7.5	22.6
Basin 20en north	23-Feb-11	1	23.5	41.78	28.1	7	27.9
	23-Feb-11	2	23.3	21.66	13.6	7	14.5
	23-Feb-11	3	26.9	41.56	27.9	7	27.8
	23-Feb-11	4	26	28.21	18.1	7	18.9
Basin 21	23-Feb-11	1	20.1	10.51	6.3	7	7.0
	23-Feb-11	2	20.8	10.49	6.2	6.5	7.0
	23-Feb-11	3	23.3	11	6.5	6.5	7.3
	23-Feb-11	4	21.4	10.99	6.6	6.5	7.3

Basin Number	Date	Sample No.	Temperature (°C)	Conductivity (uS)	Salinity (ppt)	pH	TDS (ppt)
	23-Feb-11	5	20.3	11.64	7.1	6.5	7.7
	23-Feb-11	6	21.3	8.77	5.1	6.5	5.8
	23-Feb-11	7	21.3	11	6.7	7	7.3
	23-Feb-11	8	21.8	10.36	6.1	6.5	6.9
Basin 22	23-Feb-11	1	23.5	14.98	9.1	7	10.0
	23-Feb-11	2	23.8	14.65	8.9	7	9.8
	23-Feb-11	3	23.5	15.08	9.2	7	10.1
	23-Feb-11	4	23.8	16.23	10	7	10.8
	23-Feb-11	5	24	16.3	10	7	10.9
	23-Feb-11	6	24	10.79	6.4	7	7.2
Basin 23	23-Feb-11	1	22.3	10.63	6.3	6.5	7.1
	23-Feb-11	2	22.5	11.65	7	6.5	7.8
	23-Feb-11	3	21.8	12.26	7.4	7	8.2
	23-Feb-11	4	21.9	12.07	7.2	6.5	8.0
	23-Feb-11	5	24.2	15.19	9.2	6.5	10.1
	23-Feb-11	6	20.3	12.12	7.3	6.5	8.1

C-4

2012 PACIFIC POCKET MOUSE
45-DAY SUMMARY REPORT

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28 September 2012

Ms. Susie Tharratt
Recovery Permit Coordinator
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6010 Hidden Valley Road, Suite 201
Carlsbad, California 92011

Subject: 2012 Naval Base Coronado Coastal Campus Project Pacific Pocket Mouse (*Perognathus longimembris pacificus*) 45-Day Summary Report, San Diego County, California

Dear Ms. Tharratt:

In compliance with the Special Terms and Conditions for Endangered and Threatened Wildlife Species Permit TE-780566-11, Ruben S. Ramirez, Jr., on behalf of AECOM, conducted a trapping program to determine the presence/absence of the federally endangered Pacific pocket mouse (*Perognathus longimembris pacificus*) (PPM) within the Naval Base Coronado (NBC) Coastal Campus project area, located within the Silver Strand Training Complex-South (SSTC-S). Surveys were conducted on behalf of the Department of the Navy (Navy), Naval Facilities Engineering Command, Southwest.

Project Description

The Navy is proposing the construction and upgrade of utilities and infrastructure to support Naval Special Warfare (NSW) Command's (NSWC) current and future operational readiness. This would involve construction of a coastal campus on SSTC-S known as the NBC Coastal Campus (the project). Specifically, the project would provide adequate facilities to support mandated force growth within NSW on the west coast and would maintain the required levels of operational readiness of special warfare forces, as mandated by 10 U.S. Code Section 5062. The project would meet the need of these requirements through the development of required facilities and space for NSW logistics, operations, training, and administrative functions that would allow NBC to support NSWC's fluctuating organizational structure and mandated mission requirements.

The project would involve consolidation of the necessary NSWC facilities in one location at SSTC-S; development and construction (using sustainable design principles) of operations buildings, training and administrative facilities, utilities, fencing, roads, and parking; and construction of a new controlled entry point providing immediate access from State Route 75 (SR-75).

The project would also create a dense, walkable development supported by highly efficient energy, water, and wastewater infrastructure facilities designed and oriented on a campus or district level. By integrating the design of these major utility systems, greater energy use efficiencies would result. Additionally, the campus design would incorporate renewable energy features such as solar electric photovoltaics and hot-water-producing solar thermal panels.

Site Description

The approximately 154-acre project area is located within SSTC-S, San Diego County, California, as shown in Figures 1 and 2. SSTC-S extends approximately 1.3 nautical miles along the Pacific Coast and encompasses approximately 548 acres of land owned by the federal government (down to the high tide line). SSTC-S is located north of and adjacent to the City of Imperial Beach. The west side is adjacent to the Pacific Ocean and the east side is adjacent to SR-75 and San Diego Bay. Elevations across the project area range from 15 feet above mean sea level (MSL) to 64 feet above MSL. Part of SSTC-S is leased to the Young Men's Christian Association (YMCA) for a surf camp (known as the YMCA Camp Surf), which is located in the southwest corner of SSTC-S. Additional Navy-owned land on the east side of SR-75 that is part of SSTC-S is included in the South Bay Marine Biological Study Area.

There are several soil types within the project area based on the most recent geographic information system (GIS) soil survey data (USDA 2004). The soil types, presented in order of decreasing cover across the site, are Marina loamy coarse sand (with 2 to 9% slope, 153 acres), tidal flats (0.8 acre), coastal beaches (0.3 acre), and Huerhuero loam (with 2 to 9% slope, 0.2 acre).

The project area contains several vegetation communities and other cover types based on project surveys. Vegetation mapping across SSTC-S was conducted by AECOM botanists in 2012. Vegetation communities and other cover types, presented in order of decreasing cover across the project site, are disturbed habitat (102 acres), urban/developed habitat (43 acres), nonnative grassland (8 acres), and Diegan coastal sage scrub (1.1 acres). These cover types are depicted in Figure 3 and described below.

Disturbed Habitat

Most of the natural habitat throughout the project area is dominated by ice plant (*Carpobrotus chilensis*), which has invaded large areas of native vegetation, especially the sandy dune habitats. Although it was probably planted to control erosion and blowing sand, it has become a serious weed problem. Ice plant creates a monoculture of dense vegetative cover that precludes native species from growing, and covers the soil surface with both living and dead mats of vegetation. A few small patches of nonnative grassland occur scattered amongst large mats of ice plant. These small patches of nonnative grassland are usually isolated and occasionally interconnected. This habitat type was considered to be unsuitable for PPM due to dense vegetation cover and was excluded from PPM trapping.

Urban/Developed

This cover type includes areas that are built on or have the remains of former buildings, concrete foundations, cement rubble piles, roads, or other structures. This cover type was not considered suitable for PPM and was excluded from surveys.

Nonnative Grassland

Small patches of nonnative grassland occur on the eastern side of the project area between ice plant and the fenceline. This cover type often contains dense thatch from nonnative grasses. This cover type was generally considered too dense to support PPM; however, limited trapping occurred where sandy soils and low grass cover was present. The most frequent plant species are brome grasses (*Bromus* spp.), short-pod mustard (*Hirschfeldia incana*), London rocket (*Sisymbrium* sp.), sourclover (*Melilotus indicus*), and several other nonnative species.

Diegan Coastal Sage Scrub

Small remnant stands of this vegetation cover type occur scattered in the project area. The main species in this cover type are coast California buckwheat (*Eriogonum fasciculatum*), *broom bacccharis (Baccharis sarothroides*), coast sagebrush (*Artemisia californica*), lemonade berry (*Rhus integrifolia*), and California encelia (*Encelia californica*). Limited PPM trapping occurred in areas with Diegan coastal sage scrub where sandy soils and low vegetation cover (or areas with openings between shrubs) were present. Two bunkers in the project area have Diegan coastal sage scrub growing around them; trapping for PPM occurred in those areas.

Study Area Background

SSTC-S, formerly known as the Naval Radio Receiving Facility (NRRF) , was initially operated as part of a larger cattle ranch in the mid 1800s into the late 19th century (Herbert and Byrd 1997). The first construction activities within SSTC-S occurred from 1885 to 1887 and focused on enticing development by constructing residential streets and a railroad line throughout the northern region of the property (historic Coronado Heights planned community). Following the failure of this development effort, the military acquired the lands between 1920 and 1945 as part of an overall strategy for the defense of the San Diego Harbor. Following the acquisition of the lands, the Army and Navy used SSTC-S for warfare training. It had capacity for 7,000 persons and included installation of radio stations and coastal artillery batteries (Herbert and Byrd 1997). The batteries were constructed during World War II in an attempt to bolster military defense of the Pacific Coast. With the exception of the existing batteries (too large to remove), most of the initial buildings and supporting facilities were removed by 1963. Construction of the current Wullenweber Antennae and associated structures was completed in 1965, and the antennae were decommissioned in the mid-1980s. SSTC-S continues to serve as a training facility for the Navy.

Upon review of historical maps, no large-scale fill material was deposited on SSTC-S; however, soil was used to cover several large batteries that exist today. Additionally, several piles of concrete and tarmac from previous buildings and roads are scattered around the project area.

An initial focused PPM trapping program was conducted by RECON for the NRRF Natural Resources Inventory from 8 to 13 July 2002 (RECON 2004). The surveys initiated by RECON were conducted according to U.S. Fish and Wildlife Service (USFWS) PPM trapping guidelines. Specifically, four transects with 40 traps each, for a total of 160 traps, were placed within vegetation communities that exhibited suitable sandy soil conditions (RECON 2004).

Species Background

PPM inhabits coastal zones that are dominated by open coastal sage scrub, coastal strand, coastal dunes, and river alluvium, and is associated with fine-grain, sandy substrates (USFWS 1998).

On 3 February 1994, PPM was emergency listed as endangered due to the rediscovery of a population within the Dana Point Headlands in July 1993 (USFWS 1994a). Prior to this discovery, PPM had not been observed in more than 20 years. Subsequently, on 29 September 1994, PPM was listed as federally endangered by USFWS 1994b and designated a “Species of Special Concern” by the California Department of Fish and Game (CDFG) (State of California 2011). No critical habitat has been designated for PPM.

PPM historically occurred within 2.5 miles of the coastal region of Southern California, from Marina Del Rey and El Segundo, Los Angeles County, south to the Tijuana River Valley (USFWS 1997). Currently, there remain three populations concentrated in four areas: Dana Point Headlands, San Mateo North, San Mateo South, and Santa Margarita River mouth (along the northern coastal terrace) (USFWS 2010). With the exception of the population located within the Dana Point Headlands, the remaining populations are located within Marine Corp Base Camp Pendleton (MCBCP).

The project area is located adjacent to the Pacific Coast, with the nearest known PPM population occurring approximately 50 miles north at the Santa Margarita River mouth on MCBCP along the northern coastal terrace. The closest historic population (1932 last confirmed observation) is approximately 2 miles south within the Tijuana River Valley, San Diego County (Erickson 1993). There is no natural habitat connecting the project area with a known PPM population.

Methodology

The methods used during the focused trapping program followed the guidelines set forth by USFWS, as outlined below:

i) Individuals may be held for up to 10 minutes, and then shall be released at the capture site.

ii) At a given site, all traps must be located in areas that best typify pocket mouse habitat; trapping shall be continued for a minimum of 5 consecutive nights, unless

pocket mice are captured. A lesser effort may be approved by the Carlsbad Fish and Wildlife Office (CFWO) on a case-by-case basis.

iii) Except as provided in this paragraph, only 9-inch or 12-inch Sherman live traps, or traps of similar design and efficiency, shall be used to trap in habitats that are known or suspected to be occupied by pocket mice. Traps of "similar design and efficiency" shall be approved by the CFWO and CDFG prior to their use. All trap models shall be modified to eliminate or substantially reduce the result of injury (e.g., tail lacerations or excisions) to pocket mice.

iv) Traps shall be checked at least twice per night, once near midnight and again at sunrise. Less frequent trap checks may be approved by the CFWO on a case-by-case basis. Trapping may not be conducted if the nightly low temperature is forecast to be below 50 degrees Fahrenheit or if extended wind, rain, or other inclement weather (e.g., fog) make (or have made) conditions unsuitable for trapping or unduly jeopardize the lives of pocket mice.

v) No mutilation marking scheme (e.g., toe-clipping, ear-clipping) is allowed. No invasive technique (e.g., PIT-tagging) is allowed unless specifically authorized by the USFWS Regional 8 office. Other marking schemes (e.g., hair clipping, ear-tagging) are permissible with prior approval by the CFWO.

vi) Plastic bags shall be used only for removing pocket mice from traps (for extraction and processing). Trapped individuals shall be processed as quickly as possible to reduce stress to the animals. Under no circumstances shall the individual be kept in plastic bags beyond 5 minutes. Extreme care shall be taken to avoid stress or suffocation. Trapped pocket mice that must be kept for longer periods of time shall be transferred into a clean, structurally sound, breathable container with adequate ventilation. At no time shall the individual be allowed to become stressed due to temperature extremes (either hot or cold).

vii) The permitted biologist shall notify the CFWO within 48 hours if a new population of PPM is discovered.

Prior to setting traps, the entire project area, plus all other potentially suitable habitat on SSTC-S, was assessed to identify potential habitat for PPM, document small mammal activity, and determine trapping areas and transect placement. Biologists walked throughout SSTC-S to determine the most optimal trap locations and areas with potentially suitable PPM habitat. Although this trapping study focused on the project area, other areas on SSTC-S that had potentially suitable habitat for PPM were included in the trapping effort. Traps were placed in those portions of the project area and other potentially suitable locations where small mammal burrows, soils, and/or suitable vegetation were documented.

All trapping was conducted by Ruben S. Ramirez, Jr., as authorized by USFWS Federal Permit 780566-11. The trapping was conducted from 15–19 July 2012, and weather conditions were suitable for detecting the species (daytime average high of 81 degrees

Fahrenheit [°F] and nighttime low average of 61°F with no rainfall). Eight trap lines totaling 130 traps were set and checked for a total of 5 nights (650 trap nights; one trap = one trap set and checked for 1 night), as shown in Figure 4. Based on the presence of suitable conditions (vegetation, soils, and small mammal activity), 12-inch and 9-inch (modified) Sherman live traps were placed along each trap line ranging from 5 to 10 meters between traps. Traps were placed adjacent to small mammal burrows where present. Each trap was baited with an oatmeal/seed mix. Triggers were checked to ensure sensitivity and traps were opened at sunset. All traps were checked at sunrise, including a thorough check beneath trigger plates to ensure that no animals were inadvertently left in traps. All animals captured were identified and released.

Results

No PPM were captured during the trapping program, and none are expected to occur within the project area. Two small mammal species were documented during the trapping program: western harvest mouse (*Reithrodontomys megalotis*) and house mouse (*Mus musculus*) (Table 1).

Table 1
2012 PPM Trapping Program Results

Survey Date	July 15	July 16	July 17	July 18	July 19
western harvest mouse (*Reithrodontomys megalotis*)	5	7	10	8	7
house mouse (*Mus musculus*)	0	0	1	0	2
Total Captures (Capture %)	**5 (4%)**	**7 (5%)**	**11 (8%)**	**8 (6%)**	**9 (7%)**

During RECON's trapping program in 2002, only five western harvest mice were captured. RECON had an extremely low capture ratio of 0.6% (five captures in 800 trap nights), and the only species captured was western harvest mouse.

Conclusions

Similar to RECON's trapping program, the only native small mammal captured by AECOM during the 2012 trapping effort was western harvest mouse. Although the average capture ratio of 6% was higher than documented in 2002, the complete lack of species richness of small mammals known from or potentially present in the region (*Perognathus, Chaetodipus, Dipodomys, Peromyscus, Neotoma,* and *Microtus*) is expected to be a factor of the historic disturbances and current isolation of the project area. The project area is almost completely surrounded by development or open ocean. There appears to be virtually no route for either common or sensitive small mammal species to naturally reoccupy the study area from open space habitat located south of the site in the Tijuana River Valley.

No PPM were captured during the 2002 or 2012 trapping programs, and the species is not expected to occur within the project area.

Certification Statement

Ruben S. Ramirez, Jr., the permitted biologist who conducted PPM surveys for the Naval Base Coronado Coastal Campus project, certifies that the information in this survey report fully and accurately represents the work performed; his signature is included below.

If you have any questions or require additional information, please contact Andrew Fisher at (619) 233-1454.

Ruben S. Ramirez, Jr.
Permitted Biologist

Enclosures: Figure 1 – Regional Map
Figure 2 – Vicinity Map
Figure 3 – Vegetation Map
Figure 4 – Pacific Pocket Mouse Trapping Locations

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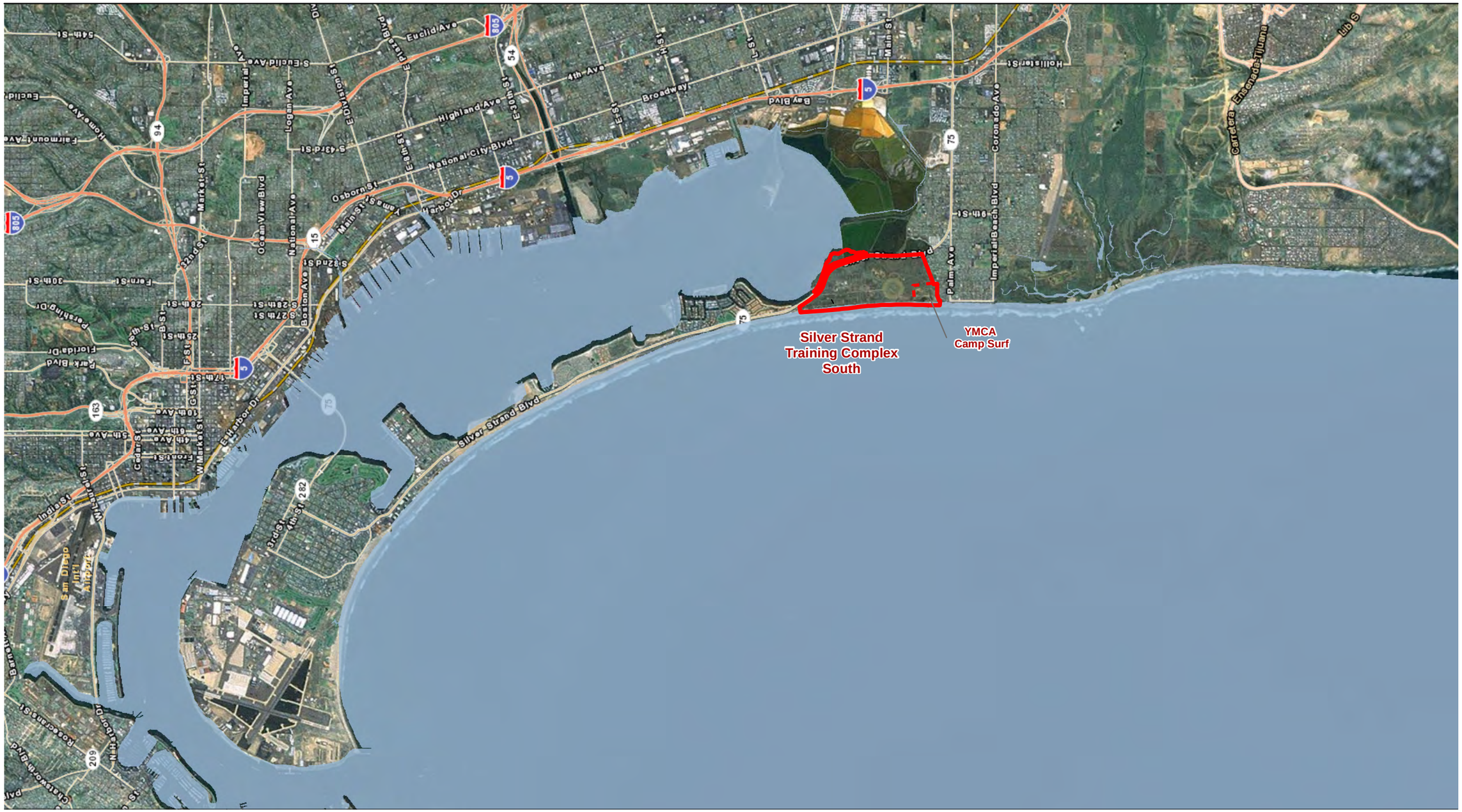

Figure 1
Regional Map

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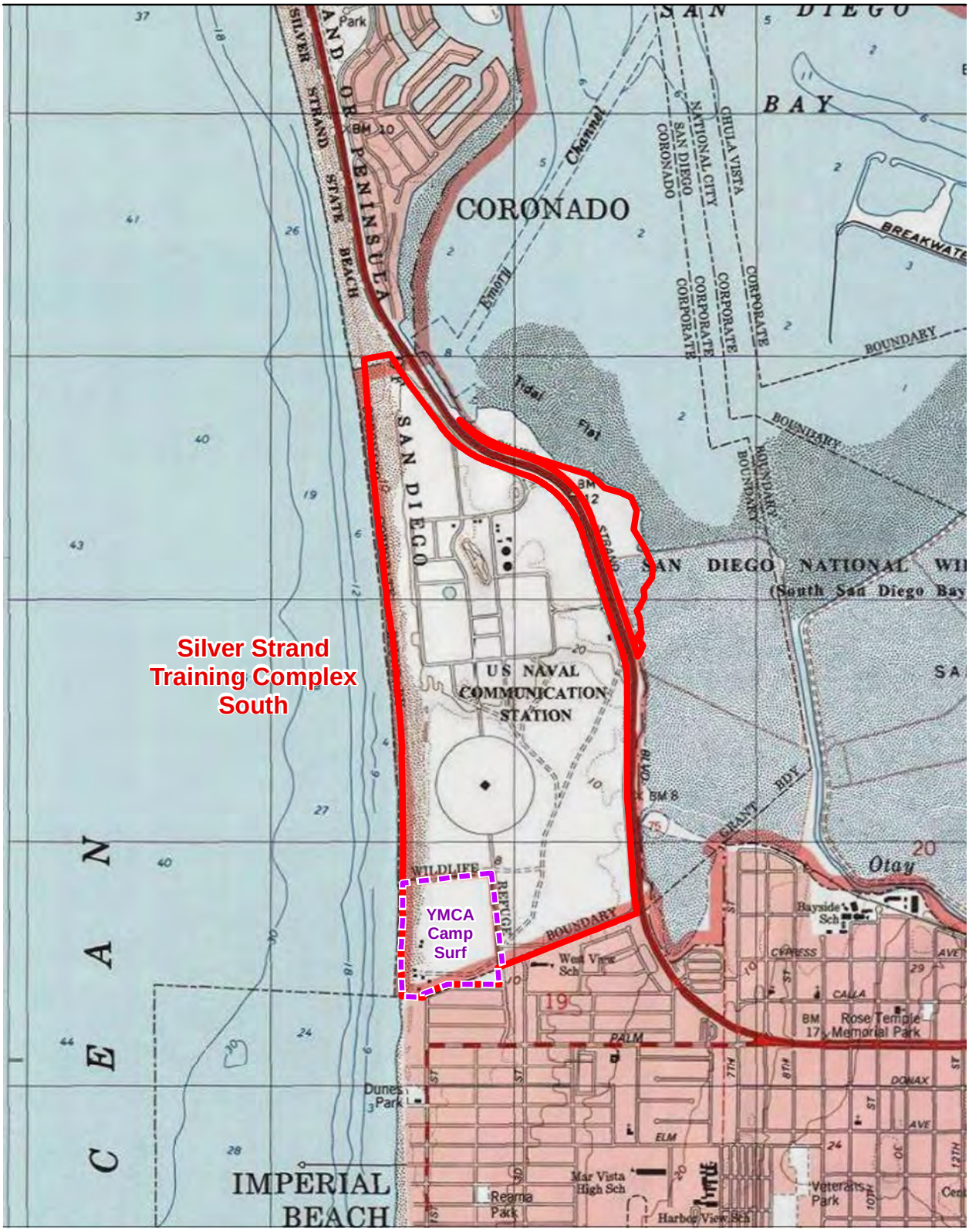

Source: USGS 7.5' Topo Quad Imperial Beach, CA 1975.

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Scale: 1:24,000; 1 inch = 2,000 feet

Figure 2
Vicinity Map

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Source:

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Scale: 1:7,500; 1 inch = 625 feet

Figure 3
Vegetation Map

Path: P:\2011\60236207\06GIS\6.3_Layout\BIO\PPM_45Day_Report\fig3_VegMap.mxd, 9/27/2012, steinb

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625 312.5 0 625 Feet

Scale: 1:7,500; 1 inch = 625 feet

Figure 4
Pacific Pocket Mouse Trapping Locations and Results

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C-5

2014 AVIAN
SUMMARY REPORT

2012–2013 AVIAN SUMMARY REPORT CONDUCTED ON SILVER STRAND TRAINING COMPLEX-SOUTH IN SUPPORT OF THE NAVAL BASE CORONADO COASTAL CAMPUS

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6 February 2014

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ACRONYMS AND ABBREVIATIONS

BAS	bird area search
BSA	Biological Study Area
BUC	bird use count
CDFG	California Department of Fish and Game
CDFW	California Department of Fish and Wildlife
CDFW FP	California Department of Fish and Wildlife Fully Protected
CDFW SSC	California Department of Fish and Wildlife Species of Special Concern
DoD	Department of Defense
DoD PIF	Department of Defense Partners in Flight Priority Species
ESA	Endangered Species Act
GPS	Global Positioning System
MBTA	Migratory Bird Treaty Act
MOU	Memorandum of Understanding
NAB	Naval Amphibious Base
NBC	Naval Base Coronado
NASNI	Naval Air Station North Island
NOLFIB	Naval Outlying Landing Field Imperial Beach
NSWC	Naval Special Warfare Command
SR	State Route
SSTC-South	Silver Strand Training Complex-South
U.S.	United States
U.S.C.	U.S. Code
USFWS	U.S. Fish and Wildlife Service
USFWS BCC	U.S. Fish and Wildlife Service Birds of Conservation Concern

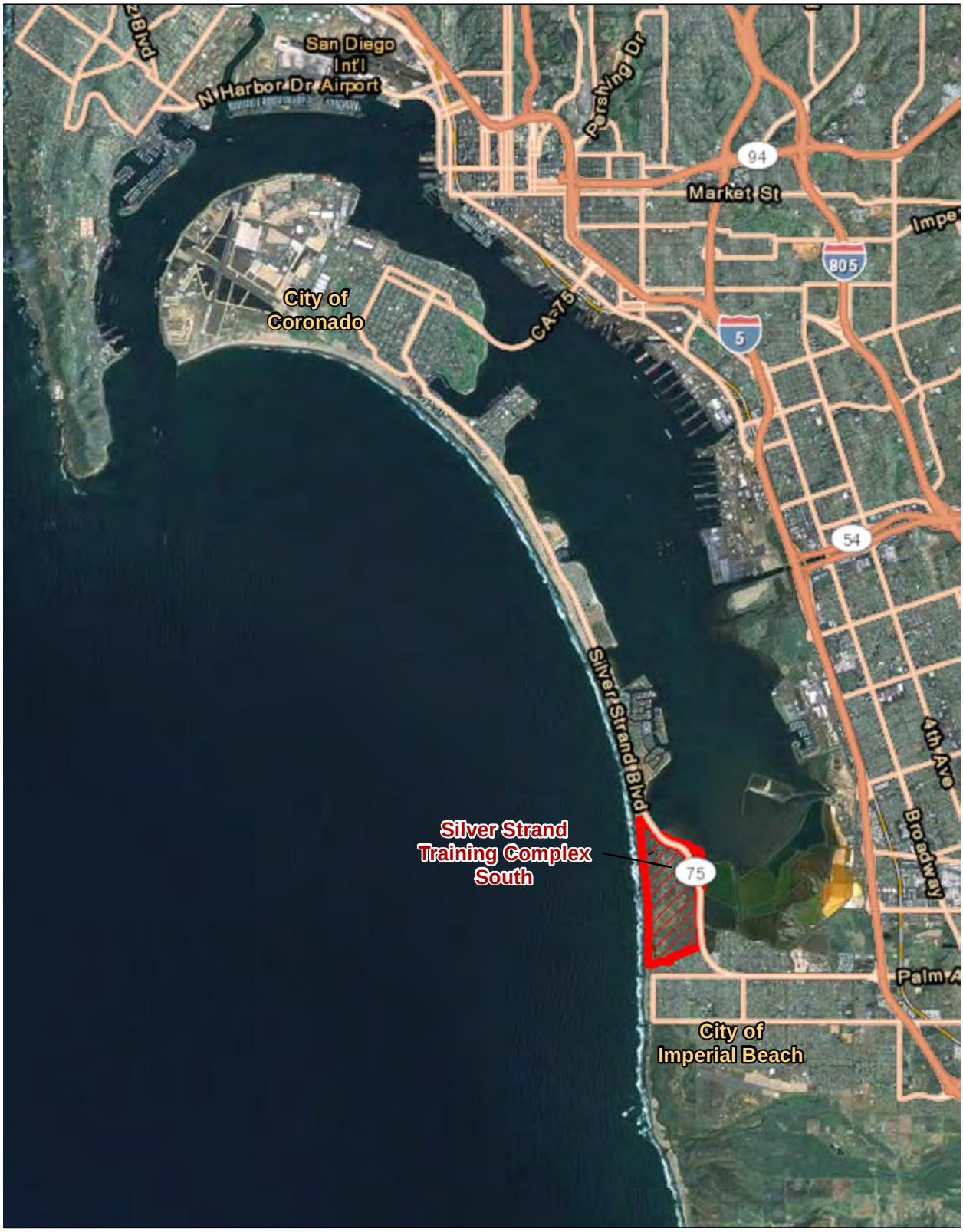
INTRODUCTION

The United States (U.S.) Department of the Navy (Navy) is evaluating the potential environmental effects of developing an academic campus to support the current and future operational readiness of personnel with the Naval Special Warfare Command (NSWC) on Naval Base Coronado (NBC) in San Diego County, California. NBC is composed of several Navy installations, one of which is Silver Strand Training Complex-South (SSTC-South). SSTC-South is located in the southwestern corner of San Diego Bay, along State Route (SR) 75, south of Silver Strand State Beach, and immediately north of the City of Imperial Beach (Figures 1 and 2).

The construction of an academic campus (known as the NBC Coastal Campus, or Proposed Action) is proposed on SSTC-South. To determine potential impacts from the Proposed Action to resident and migratory bird species, a study of avian use, abundance, and diversity was conducted by AECOM on SSTC-South from February 2012 through February 2013. Listed and described below are the main relevant laws and regulations that govern avian species on Federal lands.

Applicable laws that protect avian species on SSTC-South include the Federal Endangered Species Act (ESA) of 1973 (16 U.S. Code [U.S.C.] §§ 1531 et seq.), which directs the U.S. Fish and Wildlife Service (USFWS) and the National Oceanic and Atmospheric Administration Fisheries Service to identify and protect endangered and threatened species and their critical habitat, and to provide a means to conserve their ecosystems. Additionally, the Migratory Bird Treaty Act (MBTA) of 1918 (16 U.S.C. §§ 703–712) is the primary legislation in the United States established to conserve migratory birds. The MBTA makes it unlawful to take or possess migratory birds, except as permitted by USFWS. The MBTA protects all migratory birds, their eggs, their body parts, and their nests. Essentially, all avian species native to the U.S. are protected under the provisions of the MBTA; introduced species and nonmigratory upland game birds are not protected by the MBTA.[1] A list of the bird species protected by the MBTA appears in 50 Code of Federal Regulations Section 10.13. The MBTA is a strict liability statute, meaning that a violation can occur regardless of intent, knowledge, or negligence.

[1] See 50 Code of Federal Regulations Section 10.13 for list of avian species protected by the Migratory Bird Treaty Act (MBTA) and 70 Federal Register 28907-28908 for a list of nonnative species that are not protected by the MBTA.



Source: ESRI 2012; CALH2O 2011; AerialExpress 2011

10,000 5,000 0 10,000 Feet

Scale: 1:120,000; 1 inch = 10,000 feet

Figure 1
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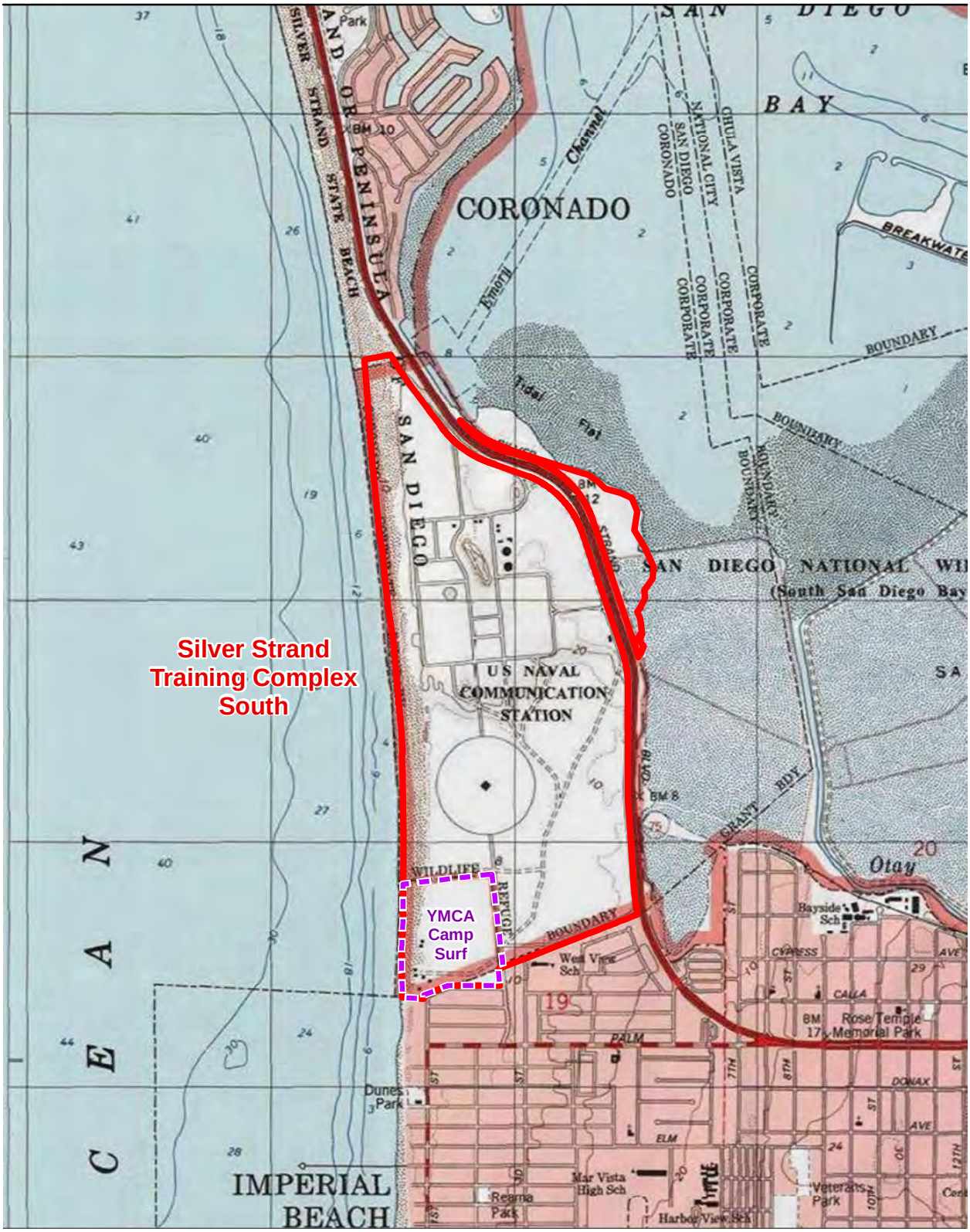
Path: P:\2011\60236207\06GIS\6.3_Layout\BIO\Avian_Letter_Report\Fig1_RegionalMap.mxd, 1/21/2014, sorensenj



Source: USGS 7.5' Topo Quad Imperial Beach, CA 1975.

2,000 1,000 0 2,000 Feet

Scale: 1:24,000; 1 inch = 2,000 feet

Figure 2
Vicinity Map

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In addition to the ESA and the MBTA, a Memorandum of Understanding (MOU) between USFWS and the Department of Defense (DoD) was established on 31 July 2006. This MOU describes specific actions that should be taken by DoD to advance migratory bird conservation; avoid or minimize the take of migratory birds; and ensure DoD operations (other than military readiness activities) are consistent with the MBTA (DoD 2007). The MOU does not authorize take of migratory birds. Certain activities that the MOU specifically pertains to for the Proposed Action include:

1. Installation support functions, including but not limited to, the maintenance, construction, or operation of administrative offices; military exchanges; road construction; commissaries; water treatment facilities; storage facilities; schools; housing; motor pools; non-tactical equipment; laundries; morale, welfare, and recreation activities; shops; landscaping; mess halls; and
2. Construction or demolition of facilities relating to these routine operations.

The 2003 National Defense Authorization Act provides that the Secretary of the Interior can exercise his/her authority under the MBTA to prescribe regulations to exempt DoD from the MBTA take prohibitions during military readiness activities authorized by the Secretary of Defense. A final rule authorizing DoD to take migratory birds during military readiness activities was published in February 2007 (72 Federal Register 8931–8950). The Proposed Action analyzed herein does not fall under the military readiness activities identified in this final rule; therefore, it is subject to the provisions of the MBTA and the MOU between DoD and USFWS.

AVIAN STUDY OBJECTIVES

Avian surveys were conducted on SSTC-South to meet the following objectives:

1. Determine avian species diversity within the BSA by compiling a list of resident and migratory species using the BSA during each of the four seasons.
2. Annotate how (e.g., breeding, nesting, foraging, etc.) and when these species are using the resources (both natural and man-made) on the Proposed Action site.
3. Determine an approximate distribution and a quantitative and qualitative measure of relative abundance for resident and migratory species using the Proposed Action site.

PROJECT DESCRIPTION

The Proposed Action would include a mix of instructional and administrative facilities that would support logistics, operations, training, and administration. The Proposed Action would consist of (1) consolidation of the necessary NSWC facilities to one location on the northern half of SSTC-South; (2) design and construction of logistical support buildings, equipment use and maintenance training facilities (including an approximately 50-foot-long by 80-foot-wide by 120-foot-tall parachute drying tower), classroom and tactical skills instruction buildings, storage, and administrative facilities, utilities, fencing, roads, and parking; and (3) construction of a new entry control point providing immediate access to SSTC-South from SR-75. The Proposed Action would include construction, operation, and maintenance of multiple Military Construction Projects (or MILCONs). This would include 24 projects constructed over a 10-year period at a cost of approximately $700 million, providing nearly 1.5 million square feet of facilities. These projects would support command headquarters uses, operational uses, logistics and community support uses, and training (indoor and physical training) uses.

The purpose of the Proposed Action is to (1) provide adequate facilities to support mandated force growth for NSWC on the west coast and (2) maintain the required levels of operational readiness of special warfare forces, as mandated by 10 U.S.C. § 167 and § 5062. The Proposed Action is needed due to the lack of sufficient facilities and space to support NSWC's administrative, logistics, and classroom and tactical instruction functions. The Proposed Action would meet this need by optimizing facilities and use of space, including synchronistic site improvements, within the existing NBC footprint. This would allow NSWC to support NSWC's fluctuating organizational structure and mandated mission requirements.

SITE DESCRIPTION

SSTC-South has been used by the Navy for more than 60 years and is located on, and adjacent to the Silver Strand, a narrow, sandy isthmus separating San Diego Bay from the Pacific Ocean. SSTC-South includes land on the southern end of the Silver Strand peninsula, as well as adjacent nearshore waters of the Pacific Ocean. It extends approximately 1.3 nautical miles along the Pacific Coast and encompasses approximately 548 acres of land owned by the Federal government from the high tide line on the bayside to the high tide line on the oceanside. SSTC-South also includes oceanside beach and boat training lanes, and inland training areas and facilities inside a fenced area.

To provide an appropriate environmental analysis, a Biological Study Area (BSA) was established for avian resources. The BSA included all areas west of SR-75 on SSTC-South, and excluded leased lands that are part of the South Bay Marine Biological Study Area, YMCA Camp Surf, and all beach habitat (Figure 3). The BSA did not include a buffer outside of or around SSTC-South because open water or urban development surrounds the majority of SSTC-South. The BSA was centered within the fenced-in portion of SSTC-South because development as part of the Proposed Action would be restricted to the fenced-in area. The Proposed Action site is roughly centered in the northern part of SSTC-South within areas that are primarily urban/developed and disturbed. Due to the potential need to replace and upgrade existing utility lines, roads, and other infrastructure, it was decided to have the BSA include areas other than the Proposed Action site itself. Therefore, the BSA was designed to include both the Proposed Action site and areas where other activities (such as road and utility improvements) might need to occur to support the Proposed Action.

AECOM botanists conducted plant community and cover type mapping on SSTC-South from 29 February through 12 June 2012. The approximate acreages of terrestrial plant communities and cover types within the BSA on SSTC-South are listed in Table 1 and shown in Figure 3.

Table 1
Terrestrial Plant Communities and Cover Types within the BSA on SSTC-South

Plant Communities and Other Land Cover Types	SSTC-South[1] (acres)
Wetland	
Coastal and Valley Freshwater Marsh	0.16
Southern Coastal Salt Marsh	20.70
Vernal Pool	11.11
Upland	
Diegan Coastal Sage Scrub	8.04
Maritime Succulent Scrub	4.63
Nonnative Grassland	101.00
Southern Foredunes	41.79
Other Land Cover Types	
Beach	12.42
Urban/Developed	61.63
Disturbed Habitat	173.99
Total	**435.47**

[1] This is the total acreage for all plant communities on SSTC-South, excluding YMCA Camp Surf, South Bay Marine Biological Study Area, and other Navy lands on the east side of SR-75.

Source: ICF 2012; ESRI; CPEN; AECOM 2012

650 325 0 650 Feet

Scale: 1:7,800; 1 inch = 650 feet

Figure 3
Vegetation Map

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Within the BSA habitat diversity and stratification was fairly low. The majority of plant communities and cover types within the BSA were open and low-growing, and consisted of urban/developed or disturbed habitat (primarily ice plant [*Carpobrotus chilensis*]). The portions of Diegan coastal sage scrub and maritime succulent scrub were short, open, and heavily grazed upon by San Diego black-tailed jackrabbits (*Lepus californicus bennettii*). Very few stands of dense shrubs, bushes, trees, or other features were present where birds could seek refuge during migration, or nest in. The primary trees within the BSA include species of eucalyptus (*Eucalyptus* sp.), acacia (*Acacia* sp.), and Monterey cypress (*Cupressus macrocarpa*). These trees were generally spaced apart and were not growing in large, dense clumps. The only dense stand of shrubs was located in the southern part of the BSA along a drainage feature, and consisted of a linear stand of nonnative *Myoporum* shrubs. Two small pockets (around 0.16 acre) of coastal and valley freshwater marsh were filled during the winter of 2012 but dried up during surveys.

METHODS

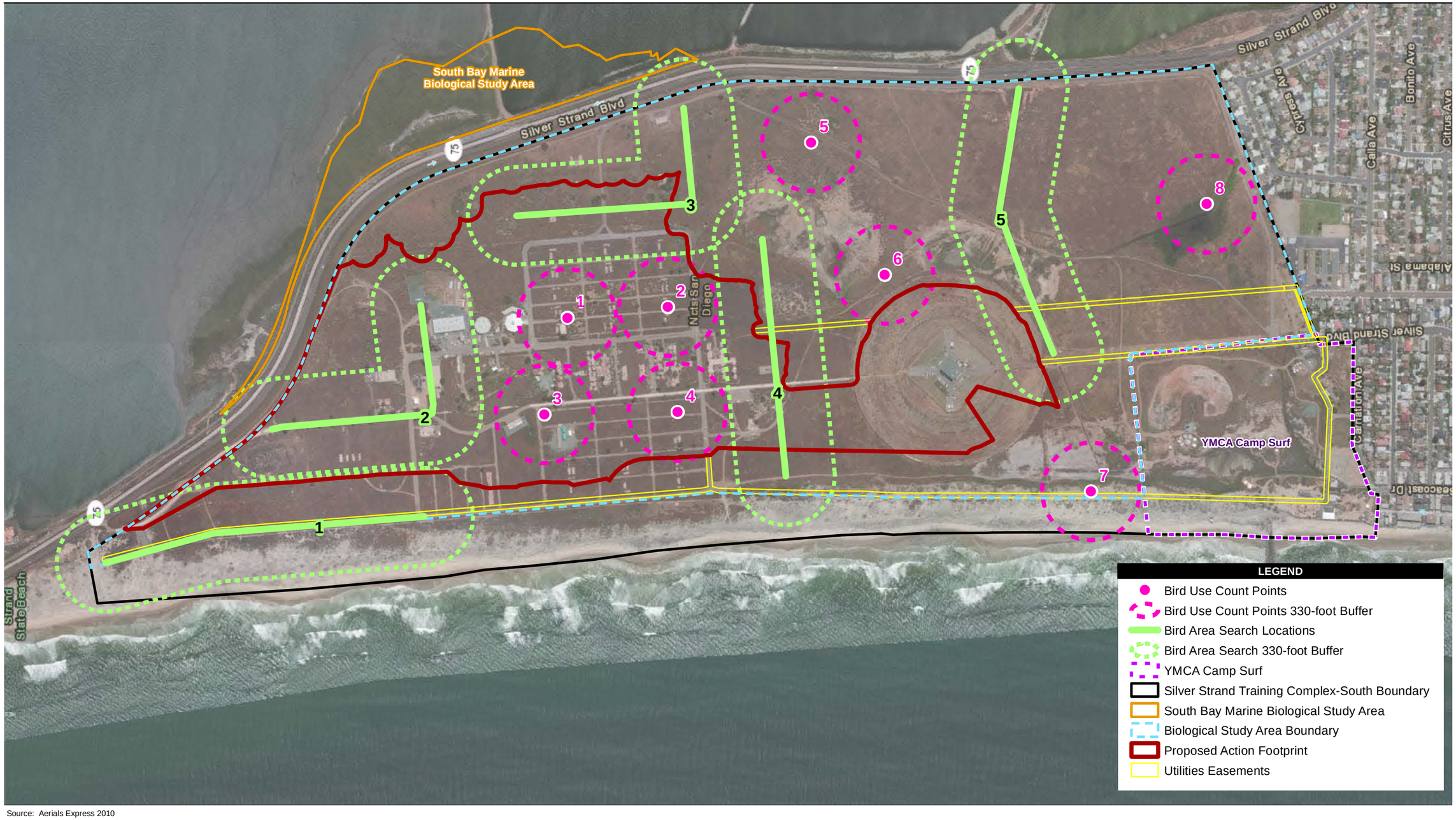
Avian surveys were conducted on SSTC-South by AECOM from February 2012 through February 2013 to inventory resident and migratory species, determine how and when these species use SSTC-South, and estimate the distribution and relative abundance for each species detected. To collectively meet these objectives, ornithologists conducted both bird use counts (BUCs) and bird area searches (BASs). BUCs and BASs were conducted weekly in spring (March through May 2012) and fall (August through October 2012); and every 2 weeks in summer (June and July 2012) and winter (November 2012 through February 2013). A total of 39 surveys were completed.

Survey locations were non-randomly selected to maximize the number of avian detections across the BSA while sampling all habitat types present. Survey locations were also chosen to compare avian diversity within urban/developed cover types with more native cover types (Diegan coastal sage scrub, grasslands, etc.). Avian species detected while walking or driving between BUCs and BASs were recorded as incidental species. Avian surveys were initiated in February 2012 and were completed in February 2013. The locations of the BUCs and BASs are depicted in Figure 4 and the methodologies used for BUCs and BASs are detailed in the following sections below.

Bird Use Count

The BUCs conducted involved the use of a variable circular plot count (Reynolds et al. 1980; Siegel 2000) with a fixed radius (approximately 330 feet for this project's study) to determine bird diversity, use, and relative abundance at a specific location. An ornithologist recorded bird detections and their distance from a single stationary vantage point for a specified time period. This survey technique provided baseline information on resident and migratory bird species occurrence and diversity, their behavior, and their spatial use of the area around the BUC. Data collected over 1 year provided information on the seasonal distribution, relative abundance, and spatial use of the BSA. BUCs were conducted by an ornithologist remaining stationary for 15 minutes. All bird detections (both aural and visual) were recorded. BUCs were conducted between approximately first light and 12 noon, coinciding with typical peak diurnal avian activity. By remaining stationary, ornithologists were generally able to determine a species status as migratory or resident by observing behaviors such as courtship displays, territorial disputes, nest building, and feeding young. BUCs were used to determine all three objectives: avian diversity across seasons, species use, and species relative abundance.

The BSA can roughly be divided into two halves, a northern half that is predominantly urban/developed, and a southern half that is primarily native vegetation communities. Eight BUCs were placed throughout the BSA: four BUCs within the Proposed Action area and four outside (Figure 4). BUCs 1 through 4 were located in the northern half of the BSA within urban/developed and disturbed habitat consisting of old cement building slabs, old roads, and a vegetative cover predominately composed of ice plant or other nonnative species. BUCs 5 through 8 were located in the southern half of the BSA in more native habitats composed of Diegan coastal sage scrub, maritime succulent scrub, grassland, vernal pools, and beach/dune habitat. This allowed for comparison of avian use within the disturbed/urban habitat of the Proposed Action area and the native habitat outside the Proposed Action area.



Source: Aerials Express 2010

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Scale: 1:7,800; 1 inch = 650 feet

Figure 4
Avian Survey Location Map

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At each BUC the following general data were recorded: date, survey and BUC number, survey start and stop time, observer, and weather data (air temperature, wind speed and direction, visibility, and cloud cover). When a bird was detected, the following data were recorded for each observation: avian species age and sex, number of individuals, 5-minute time increment when observed, distance and direction from observer, activity (foraging, perched, soaring, hunting, etc.), and if the detection was visual or auditory. If the observation was a flyover (bird was not using the site and just flying overhead), the direction of flight and average flight height (only for sensitive avian species) was recorded. The distance from an observer to a bird was estimated using a laser rangefinder (Bushnell Elite 1500). Surveys did not occur during inclement weather such as rain, dense fog, or high winds (sustained at more than 20 miles per hour) that would inhibit avian detection. Data were entered into a database for analysis.

Bird Area Search

The second method of detecting birds involved an observer slowly walking a fixed-length meandering transect through habitat with the goal of finding as many bird species as possible. These searches were conducted to locate any sensitive bird species that could go undetected during BUCs because they are either secretive or not easily observed. Additionally, BASs were designed to detect any secretive nesting birds by walking through habitat. BASs also permitted multiple small or linear habitat patches to be sampled by walking through them. BASs were placed in locations that were difficult to sample from a single BUC, such as linear habitat patches. BASs were used to determine species diversity, use of the BSA, and relative abundance. BASs are not generally used to determine species density since they do not take into account the distance between the observer and a bird.

Five BASs were spread throughout the BSA, with emphasis on the Proposed Action area (Figure 4). BASs were placed in locations to maximize the number of avian species detected and coverage of the BSA. BASs were spaced far enough apart to minimize the potential for double counting. BASs were conducted on the same day as BUCs, and ornithologists recorded birds for 30 minutes on each BAS. Ornithologists recorded all birds within 330 feet of either side of the BAS, including birds flying overhead. BASs varied in length from approximately 1,600 feet to 2,150 feet depending on plant communities, cover types, and habitat patches to be sampled. BASs occurred between approximately first light and 12 noon.

At each BAS, the following general data were recorded: date, survey and BAS number, survey start and stop time, observer, and weather data (air temperature, wind speed and direction, visibility, and cloud cover). When a bird was detected the following data were recorded for each observation: avian species age and sex, number of individuals, total number of each species, if the detection was visual or auditory, and any notes on breeding behavior. If the observation was a flyover of a sensitive species, the approximate flight height was recorded. The global positioning system (GPS) location and time of observation for any sensitive avian species were also recorded. Surveys did not take place in inclement weather such as rain, dense fog, or during high winds (sustained at more than 20 miles per hour) that would inhibit avian detection. All data were entered into a database for analysis.

The following list describes the general habitat features within each BAS:

- BAS 1 was located within southern foredune and disturbed habitat along the western fence line of the BSA. The main plant present was ice plant interspersed with a few native annuals and low-growing shrubs.
- BSA 2 was located along a paved road that wound through urban/developed habitat in the northern part of the BSA and included several large Monterey cypress trees.
- BAS 3 was located near the eastern fence line of the BSA and included Diegan coastal sage scrub, maritime succulent scrub, eucalyptus trees, and ice plant.
- BAS 4 consisted of ice plant and a few small patches of Diegan coastal sage scrub.
- BAS 5 was located in the most native plant community types that included: Diegan coastal sage scrub, southern coastal salt marsh, grasslands, vernal pools, and a few tamarisk shrubs.

RESULTS – SPECIES ACCOUNTS

To meet the first objective, which was to compile a list of resident and migratory avian species using the Proposed Action site during each of the four seasons, a list of all the species (including subspecies) that were detected during each season was recorded and is provided in Appendix A. A total of 154 species of birds were observed during all survey types within and adjacent to the BSA. This number included species recorded

only as incidental observations outside of a BUC or BAS. This number also included observations that could not be narrowed to species but were one of two similar species (e.g., Common vs. Arctic Tern and Allen's vs. Rufous Hummingbird). It does not include birds that could not be narrowed to species but were recorded as a member of a group (e.g., gull sp. or warbler sp.). For species that were identified to subspecies, the species was counted only once toward the total (e.g., Audubon's Warbler and Myrtle Warbler [subspecies of the Yellow-rumped Warbler] were both recorded, but only counted once toward the species total).

To meet the second objective, which was to annotate how (e.g., breeding, nesting, foraging, etc.) and when these species are using the resources (both natural and man-made) on the Proposed Action site, this information was recorded as noted in detail below and is also provided in Appendix A. Avian species seasonality of occurrence was broken down as follows:

- year-round resident,
- summer resident,
- winter resident
- migrant

Additionally, each species' breeding status was recorded as:

- documented to breed within the BSA,
- potential to breed within the BSA, and
- does not breed within the BSA.

Finally, the observed behavior for each species was recorded and included:

- species was observed foraging or roosting within the BSA;
- species was observed flying through the BSA; and
- species was observed incidentally offshore, over the San Diego Bay, or otherwise was observed outside the BSA.

House Finch (*Carpodacus mexicanus*) was the species most frequently encountered during surveys, accounting for roughly 25 percent of all observations. Other species commonly encountered within the BSA include: Elegant Tern (*Thalasseus elegans*),

Mourning Dove (*Zenaida macroura*), Anna's Hummingbird (*Calypte anna*), Horned Lark (*Eremophila alpestris actia*), Savannah Sparrow (*Passerculus sandwichensis*), White-crowned Sparrow (*Zonotrichia leucophrys*), and Western Meadowlark (*Sturnella neglecta*).

Three federally listed species, two federally delisted species, and two state listed species were observed during BUCs and BASs (Table 2). The Federal and state status,; habitat affinities, occurrence within the BSA, and a discussion of the species, life history, regional populations, and potential to occur are provided in Table 2 and discussed in detail below.

Table 2
Federally and State Listed and Delisted Avian Species Detected within the BSA

Species Name	Federal Status	Habitat Affinities	Seasonality of Occurrence and Breeding Status within the BSA
Federally Listed Species			
California Least Tern (*Sternula antillarum browni*)	Endangered. Listed on 2 June 1970 (35 Federal Register 8491, 16047). Listing status applies to entire species. Recovery plan issued (USFWS 1985).	Nests along sandy beaches close to estuaries and embayments.	Summer resident that does not breed in or adjacent to the BSA, but known to forage around the BSA. Observed flying over the BSA between nesting and foraging areas.
Least Bell's Vireo (*Vireo bellii pusillus*)	Endangered. Listed on 2 May 1986 (51 Federal Register 16482). Listing status applies to the entire population of this subspecies. Draft recovery plan proposed by USFWS and circulated for review (USFWS 1998).	Nesting is associated with riparian woodland and is most frequent in areas that combine an understory of dense young willows or mulefat, with a canopy of tall willows.	Summer resident to Southern California that was observed migrating through the BSA. No suitable breeding habitat occurs within or adjacent to the BSA.

Species Name	Federal Status	Habitat Affinities	Seasonality of Occurrence and Breeding Status within the BSA
Coastal California Gnatcatcher (*Polioptila californica californica*)	Threatened. Listed on 25 March 1993 (58 Federal Register 16742). Listing status applies to the entire population of this subspecies. No recovery plan has been published for this subspecies.	Plant communities consist of Diegan coastal sage scrub and Riversidian coastal sage scrub dominated by California sagebrush and California buckwheat.	Year-round resident in Southern California; species was observed dispersing through the BSA in the nonbreeding season. No suitable breeding habitat occurs within or adjacent to the BSA.
Federally Delisted Species			
California Brown Pelican (*Pelecanus occidentalis californicus*)	Delisted. Listed as threatened on 2 June 1970 (35 Federal Register 8491-8498, 16047-16048). Final Rule to delist occurred on 17 November 2009; went into effect on 17 December 2009.	Breeds on offshore islands such as the Channel and Coronado Islands (Garrett and Dunn 1981). Forages over open ocean, bays, estuaries, and other saline water features.	Summer resident that was observed flying over the BSA between foraging and roosting locations. Does not breed or roost within the BSA.
American Peregrine Falcon (*Falco peregrinus anatum*)	Delisted. Listed on 2 June 1970 (35 Federal Register 8491, 16047). Delisted on 25 August 1999.	Breeds on steep cliff faces, large buildings, bridges, and other tall structures. Nests on Naval Base Point Loma (Unitt 2004) and other locations around San Diego Bay. Forages over open ocean, along shorelines, bays, mud flats, and grasslands.	Year-round resident that was observed foraging within the BSA. No suitable nesting habitat occurs within the BSA.
State Listed Species			
Willow Flycatcher (*Empidonax traillii*)	Endangered. Listed on 2 January 1991. Listing applies to entire population of this species in California.	Breeds in riparian habitat with dense understory, open midstory, and moderately closed canopy. Nests are usually placed close to water.	Summer resident to California that was observed migrating through the BSA. No suitable breeding habitat occurs on or adjacent to the BSA.
Belding's Savannah Sparrow (*Passerculus sandwichensis beldingi*)	Endangered. Listed on 10 January 1974. Listing applies to entire population of this subspecies in California.	Resident in salt marshes with dense pickleweed, particularly *Salicornia virginica*, within which most nests are found.	Year-round resident that was observed foraging and vocalizing within the BSA. Suitable nesting habitat within the BSA is very limited and of low quality, and no nesting was observed.

1

Federally Listed Avian Species

It is important to note that the federally-listed endangered Western Snowy Plover (*Charadrius nivosus nivosus*) is known to breed and winter on the beach to the west of the BSA (within lands that are owned by the Navy and constitute part of SSTC-South, but were not included in the BSA). Because this species was not observed during BUCs or BASs, it is not discussed in this document. Surveys for this species are conducted annually by the Navy, the most recent being in 2013 (San Diego Zoological Society 2013), and the avian study was designed to not sample areas where Western Snowy Plovers are known to occur.

The following section describes the listing history, closest known population locations, and potential to occur for listed species and delisted species that were observed during BUCs and BASs within the BSA. Locations of federally listed species are shown in Figure 5.

California Least Tern

California Least Tern was listed as a federally endangered species on 2 June 1970 (USFWS 1970a, b). USFWS initiated a 5-year review of 58 species under Section 4 (c)(2)(B) of the ESA on 14 February 2007, which included the California Least Tern. Recommendations have been made to reclassify California Least Tern from endangered to threatened (USFWS 2006a). No critical habitat designations have been set for this species, and a recovery plan has been drafted and revised multiple times (USFWS 1980, 1985). California Least Tern is also covered under the MBTA.

The California Least Tern nests in loose colonies in areas relatively free of human and predatory disturbance. Nests are on barren to sparsely vegetated sites near water, usually with a sandy or gravelly substrate. This species requires sandy beaches close to estuaries and coastal embayments. The breeding season usually lasts from March through September, and typically only one clutch is raised. In San Diego County, it is a fairly common summer resident from early April to the end of September (Unitt 2004). Pairs will nest again if the nest or chicks are lost. Juveniles can breed by the age of 2 (USFWS 2008a). They nest in large colonies and dig a simple scrape or depression in the sand and lay one to four eggs. Eggs are incubated for 20 to 25 days by both adults. Young fledge 28 days after hatching, and are fed by adults for an additional 2 weeks.

Source: U.S. Navy 2011-2012; ESRI; AECOM 2012

625 312.5 0 625 Feet

Scale: 1:7,500; 1 inch = 625 feet

Figure 5
Sensitive Avian Species Map

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Banding returns indicate that California Least Terns exhibit fidelity to the site where they first bred successfully. Prey items include northern anchovy, topsmelt, killifish, mosquito fish, shiner, surfperch, and mudflat gobies. Significant predators include Burrowing Owls and American Kestrels (Collins and Bailey 1980).

Historically, the California Least Tern nested in large beach colonies from San Francisco Bay south to Baja California. Within California, they nest along the Pacific coast from San Francisco Bay south to the Tijuana River Estuary. In San Diego County, California Least Tern nests on Marine Corps Base Camp Pendleton south to the Tijuana River Estuary. Significant nesting sites in the county include Mission Bay, Aliso Creek, Batiquitos Lagoon, Tijuana River mouth, Chula Vista, Naval Air Station North Island, Coronado (NASNI), Naval Amphibious Base (NAB) Coronado, San Elijo Lagoon, and Lindbergh Field. Wintering areas are thought to be along the Pacific coast of South America.

According to the NBC Integrated Natural Resources Management Plan (U.S. Navy 2013), no California Least Tern nests have been found on SSTC-South. Currently, the California Least Tern is not known to nest on the beaches of SSTC-South. They are known to nest approximately 2 miles north of SSTC-South on SSTC-North and the Delta North and Delta South beaches as well as within the San Diego Bay National Wildlife Refuge (along the interior dikes) approximately one half mile to the east. SSTC-North has the second highest number of nesting California Least Terns in San Diego County. During Western Snowy Plover surveys conducted by the Navy on SSTC-South beaches, any California Least Tern nests were recorded. The most recent Western Snowy Plover surveys conducted in 2013 found no California Least Tern nests on SSTC-South (San Diego Zoological Society 2013).

California Least Tern is known to fly over the BSA from foraging over the Pacific Ocean to nesting locations in San Diego Bay. California Least Terns have been observed on several occasions flying over SSTC-South to either nesting or foraging locations (Figure 5). This species does not use habitat within the BSA for breeding or foraging.

Least Bell's Vireo

Least Bell's Vireo, a subspecies of the Bell's Vireo (*Vireo bellii*), is a federally and state listed endangered species. The Least Bell's Vireo was listed as federally endangered on 2 May 1986 (USFWS 1986). A draft recovery plan was prepared in March 1998 by

USFWS and has been circulated for review (USFWS 1998). Critical habitat was designated on 2 February 1994, but no critical habitat occurs within or adjacent to the BSA (USFWS 1994).

The Least Bell's Vireo is a migrant songbird that generally arrives in San Diego County in late March and early April and leaves for its wintering grounds in September. The Least Bell's Vireo primarily occupies riparian woodlands that include dense cover within 3 to 7 feet of the ground and a dense, stratified canopy. The subspecies inhabits low, dense riparian growth along water or along dry parts of intermittent streams. The understory is typically dominated by species of willow (*Salix* sp.) and mulefat (*Baccharis salicifolia*). Overstory species typically include cottonwood (*Populus* sp.), western sycamore (*Platanus racemosa*), and mature willows. Historically, this subspecies was a common summer visitor to riparian habitat throughout much of California. Currently, the Least Bell's Vireo is found only in riparian woodlands in Southern California, with the majority of breeding pairs in San Diego, Santa Barbara, and Riverside counties. Substantial Least Bell's Vireo populations are currently found on five rivers in San Diego County—the Tijuana, Sweetwater, San Diego, San Luis Rey, and Santa Margarita rivers—with smaller populations along other drainages. During 1996, a total of 1,423 territorial males were recorded within San Diego County (Unitt 2004). From 2001–2005 a total of 1,609 pairs were recorded in San Diego County, which accounts for approximately 54 percent of the total Least Bell's Vireo population within California (USFWS 2006b). The subpopulation in the Tijuana River Valley is one of the largest breeding concentrations in California (USFWS 2002).

One Least Bell's Vireo was detected on 16 March 2012 migrating through the BSA (Figure 5). It was observed in a small clump of a few coyote bush (*Baccharis pilularis*) shrubs located between an old concrete slab and paved road at the corner of Johnson Street and Kurtz Court. The area where the bird was detected is less than 100 feet in diameter and surrounded by a road and old cement slabs. Due to the disturbed nature and small size of this habitat, it is not considered favorable for migrating vireos. There is no suitable breeding habitat within or adjacent to the BSA for Least Bell's Vireo; therefore, this species only migrates through the BSA. Since the Least Bell's Vireo was detected during the normal period of migration for the species, and there is a lack of suitable breeding habitat, it was determined to be an incidental observation of a transitory bird moving through the BSA during migration.

Coastal California Gnatcatcher

Coastal California Gnatcatcher, a subspecies of the California Gnatcatcher (*Polioptila californica*), is federally listed as threatened by the USFWS (1993). It is considered a species of special concern by the California Department of Fish and Wildlife (CDFW; formerly the California Department of Fish and Game [CDFG]) (State of California 2011). No recovery plan has been drafted for Coastal California Gnatcatcher. Critical habitat was originally designated by USFWS for Coastal California Gnatcatcher in 2000 but was revised and a final rule was published in 2007 (USFWS 2007). No critical habitat for Coastal California Gnatcatcher occurs within or adjacent to the BSA.

Coastal California Gnatcatcher is an uncommon year-round resident of Southern California. Coastal California Gnatcatcher generally inhabits Diegan coastal sage scrub and Riversidian coastal sage scrub dominated by California sagebrush (*Artemesia californica*) and flat-topped buckwheat (*Eriogonum fasciculatum*), usually lower than 1,500 feet in elevation along the coastal slope. When nesting, Coastal California Gnatcatchers typically avoid slopes greater than 25 percent with tall, dense vegetation. Coastal California Gnatcatcher is particularly vulnerable to habitat destruction and fragmentation because of poor dispersal, reliance on a specific habitat type, and difficulty in successful breeding. On average, juvenile Coastal California Gnatcatchers disperse less than 1.2 miles from their natal territories, making colonization of distant habitat patches difficult. Coastal California Gnatcatchers are closely tied to coastal sage scrub and have been described as “obligate residents of coastal sage scrub” (Atwood and Bontrager 2001).

The closest known location of breeding Coastal California Gnatcatchers to the BSA is approximately 3.8 miles to the south in the Tijuana River Valley. One adult Coastal California Gnatcatcher was detected on 5 October 2012 dispersing through the BSA (Figure 5). This species is nonmigratory but will expand its home range and disperse during the fall and winter. The postbreeding dispersal of juvenile and adult Coastal California Gnatcatchers can range from less than 1.9 miles for juveniles to close to 6 miles for adults (Hunsaker et al. 2000). Not enough suitable coastal sage scrub exists on SSTC-South to support breeding Coastal California Gnatcatchers.

Federally Delisted Avian Species

California Brown Pelican

California Brown Pelican was federally listed as endangered on 2 June 1970 for all U.S. populations. A recovery plan was published for the California Brown Pelican (USFWS 1983) but critical habitat has not been designated. The state of California listed California Brown Pelican as endangered on 27 June 1971. The California Brown Pelican was delisted from the Federal ESA list on 17 December 2009.

California Brown Pelican is found in estuarine, marine, subtidal, and marine pelagic waters. It requires water, rocky cliffs, jetties, sandy beaches, or mudflats for roosting, and open water for foraging. Nesting colonies occur on the Channel Islands and the Coronado Islands (Garrett and Dunn 1981). Within California, nesting is restricted to these rocky islands, although onshore nesting has been noted to occur in Baja California. California Brown Pelican will rest on water or inaccessible rocks; however, it will not roost overnight on water (Briggs et al. 1981).

In San Diego County, the species is common along the coast in winter but occurs throughout the year. Significant roost areas include Torrey Pines State Reserve, La Jolla, Point Loma, and NASNI. The species is uncommon on the Salton Sea from July to September.

California Brown Pelican was observed numerous times flying over the BSA. This species was often observed flying back and forth between San Diego Bay, over the BSA, and out to the Pacific Ocean. California Brown Pelican does not nest in San Diego Bay, but forages and roosts in several locations around San Diego Bay. This species has only been observed flying over the BSA, as there is no suitable foraging, nesting, or roosting habitat within the BSA.

American Peregrine Falcon

American Peregrine Falcon was formerly listed on the Federal endangered species list on 2 June 1970 but was later delisted on 25 August 1999. The State of California listed the subspecies as endangered on 27 June 1971 and then delisted the subspecies. Currently, American Peregrine Falcon is a state fully protected species (State of California 2011). This subspecies was eliminated as a breeding resident from much of

continental U.S. during the 1950s but was reintroduced into its historic range (Johnsgard 1988). In San Diego County, this falcon is a winter visitor and breeding resident, most commonly observed October through May (Unitt 1984). During winter, American Peregrine Falcons have been observed at the Tijuana River Valley, San Diego Bay, San Diego River Valley, Mission Bay Park, Batiquitos Lagoon, Lake Hodges, San Pasqual Valley, San Vicente Reservoir, Mount Israel area, and Sweetwater Reservoir (Ogden 1995). Two pairs of American Peregrine Falcons have recently nested at San Diego Bay (Ogden 1994; Ogden unpublished data; Pavelka 1991). American Peregrine Falcon is primarily found near large bodies of water where it often feeds on waterfowl and shorebirds. American Peregrine Falcon exhibits a strong fidelity for breeding site locations and will mate for life (Brown and Amadon 1968). Nest sites are usually located on rock ledges, escarpments, or bluffs.

Currently, several pairs nest around San Diego Bay, including the cliffs of Naval Base Point Loma (Unitt 2004). American Peregrine Falcon was observed several times perched and hunting around the BSA in 2012 (Figure 5). No suitable nesting habitat occurs within the BSA, but, due to the presence of shorebirds and waterfowl, suitable foraging habitat for American Peregrine Falcon exists within the BSA.

State Listed Avian Species

Willow Flycatcher

Willow Flycatcher was listed by CDFG as state endangered in California in 1991 (CDFG 1991). Willow Flycatchers breed in riparian forests throughout California. According to Unitt (2004), fewer than 90 pairs breed in San Diego County.

The primary factor responsible for the decline of the Willow Flycatcher is habitat loss, exacerbated by nest predation and brood parasitism by brown-headed cowbirds (*Molothrus ater*) (Rourke et al. 1999). The Willow Flycatcher is a neotropical migrant that breeds in riparian forests with a distinct vegetation structure: a dense understory where nests are built, a moderately closed canopy, and an open foraging area at midstory. Willow Flycatcher breeding habitat is also characterized by actively changing hydrology, frequently including standing water, but also dry areas that have flooded within the past few years and retain the appropriate vegetation structure. In California, less than 5 percent of appropriate riparian habitat remains from its extent when California achieved statehood in 1850 (Kus 2003). Willow Flycatchers begin arriving on

breeding territories in San Diego County in early May, but migrants breeding farther north can be expected through mid-June. Fall migrants pass through the area mainly in September and October.

One Willow Flycatcher was observed migrating through the BSA during a BAS on 21 September 2012 (Figure 5). This time coincides with fall migration for this species and there is no suitable breeding habitat within or adjacent to the BSA for this species.

Belding's Savannah Sparrow

Belding's Savannah Sparrow is a nonmigratory subspecies of the Savannah Sparrow endemic to the coastal salt marshes of Southern California and northern Baja California (AOU 1983). The Belding's Savannah Sparrow was listed as endangered by CDFG in 1974. Over 75 percent of the coastal wetland habitats within this range have been lost or highly degraded (Wiley and Zembal 1989) and the remainder suffers from the effects of increasing human populations. The greatly reduced habitat base, increasing human impacts in the remnants, and small population sizes led to the listing as endangered of this small songbird by the State of California in 1974. In San Diego County, as throughout its range, Belding's Savannah Sparrow is restricted to salt marsh habitat dominated by dense stands of pickleweed (*Salicornia* spp.) and salt grass (*Distichlis spicata*) (Unitt 2004; Zembal and Hoffman 2010).

Belding's Savannah Sparrows nest in salt marshes east of the BSA within the San Diego Bay National Wildlife Refuge and were observed foraging in salt marsh habitat within the BSA on SSTC-South. The salt marsh habitat within the BSA is limited in area and of very low quality (short, patchy, and linear) and lacks large patches of dense pickleweed. It is unlikely that Belding's Savannah Sparrow would nest within the BSA. During one survey on 16 March 2012, singing male Belding's Savannah Sparrows were observed (Figure 6). They were observed in the southern part of the BSA within small patches of pickleweed adjacent to several vernal pools. There is no tidal flow in this area and most of the water in the vernal pools dries up quickly. Subsequent surveys did not yield any singing males, or young. Therefore, it was determined that Belding's Savannah Sparrows do not breed within the BSA.

Source: U.S. Navy 2011-2012; ESRI; AECOM 2012

625 312.5 0 625 Feet

Scale: 1:7,500; 1 inch = 625 feet

Figure 6
Nesting Birds Map

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Other Sensitive Avian Species

Due to the location of the BSA adjacent to the Pacific Ocean on the west and San Diego Bay on the east, and due to its relatively undeveloped nature, a large number of birds use the BSA for foraging, breeding, and migrating. Many waterfowl, shorebirds, and passerines use the Pacific Flyway to migrate north and south, and the BSA is located along this flyway. Thus, the potential is high for various bird species to use the BSA as a migratory stop-over, for wintering, or to fly over. Table 3, lists the 22 nonfederally listed sensitive avian species that were detected within the BSA during avian surveys. These 22 species fall into one or more of the following categories: U.S. Fish and Wildlife Service Birds of Conservation Concern (USFWS BCC), Department of Defense Partners in Flight Priority Species (DoD PIF), California Department of Fish and Wildlife Species of Special Concern (CDFW SSC), or CDFW Fully Protected (CDFW FP).

Table 3
Other Sensitive Avian Species Detected within the BSA

Species Common Name	Species Scientific Name	Sensitivity Status[1]	Breeding/Wintering Habitat	Potential to Occur within the BSA[2]
Brant	*Branta bernicla*	SSC (wintering, staging)	Breeds on tundra and coastal islands in coastal Alaska and the Canadian Arctic. Winters in well-protected, shallow marine waters with intertidal eelgrass beds.	Present (flyover); observed flying over BSA during the winter. No suitable breeding, foraging or wintering habitat is present within the BSA. Observed wintering in the South Bay Marine Biological Study Area.
Common Loon	*Gavia immer*	SSC (nesting)	Breeds in deep freshwater lakes in the northern part of North America. Winters along the Pacific and Atlantic Coasts from Alaska down into Mexico, and across the United States to Florida.	Present (flyover); observed flying over BSA during the winter. No suitable breeding, foraging, or wintering habitat is present within the BSA.
White-tailed Kite	*Elanus leucurus*	FP	Breeds and winters in savanna, open woodlands, marshes, desert grassland, partially cleared lands, and cultivated fields. Closest confirmed	Present; observed foraging in southern portion of BSA. No suitable breeding habitat is present within the BSA.

Species Common Name	Species Scientific Name	Sensitivity Status[1]	Breeding/Wintering Habitat	Potential to Occur within the BSA[2]
			breeding is within the Tijuana River Valley.	
Northern Harrier	*Circus cyaneus*	SSC (nesting)	Breeds and winters in freshwater marshes; brackish and saltwater marshes; wet meadows; weedy borders of lakes, rivers, and streams; annual and perennial grasslands (including those with vernal pools); weed fields; ungrazed or lightly grazed pastures; and some croplands. Closest confirmed breeding is within the Tijuana River Valley.	Present; observed foraging in BSA; unlikely to breed on site due to limited suitable breeding and foraging habitat present within the BSA.
Whimbrel	*Numenius phaeopus*	BCC	Breeds in various tundra habitat, from wet lowlands to dry heath. In migration, frequents various coastal and inland habitats, including fields and beaches. Winters in tidal flats and shorelines, occasionally visiting inland habitats.	Present; observed foraging in BSA during the winter. No suitable breeding habitat is present within the BSA.
Long-billed Curlew	*Numenius americanus*	BCC, PIF	Breeds in sparse, short grasses, including shortgrass and mixed-grass prairies, as well as agricultural fields. Winters at wetlands, tidal estuaries, mudflats, flooded fields, and occasionally beaches.	Present (flyover); observed flying over BSA; high potential to forage within BSA during the winter; occurs immediately adjacent to the BSA within the South Bay Marine Biological Study Area. No suitable breeding habitat is within or adjacent to the BSA.
Marbled Godwit	*Limosa fedoa*	BCC	Breeds in marshes and flooded plains in migration and winter, also on mudflats and beaches.	Present (flyover); observed flying over BSA during the winter; occurs along the beach immediately adjacent to and west of the

Species Common Name	Species Scientific Name	Sensitivity Status[1]	Breeding/Wintering Habitat	Potential to Occur within the BSA[2]
				BSA. Does not breed or winter in the BSA.
Short-billed Dowitcher	*Limnodromus griseus*	BCC	Breeds in muskegs of taiga to timberline, and barely onto subarctic tundra. Winters on coastal mud flats and brackish lagoons. In migration prefers saltwater tidal flats, beaches, and salt marshes.	Present (flyover); observed flying over BSA; may forage within vernal pools in the southern portion of the BSA during the winter and migration. No suitable breeding habitat is present in the BSA.
Gull-billed Tern	*Gelochelidon nilotica*	BCC, PIF, SSC (nesting colony)	Breeds on gravelly or sandy beaches. Known to breed in the San Diego Bay National Wildlife Refuge. Winters in salt marshes, estuaries, lagoons, and plowed fields, and less frequently along rivers, around lakes, and in freshwater marshes. Does not winter in California.	Present; observed foraging in BSA. No suitable breeding habitat is present within the BSA.
Elegant Tern	*Thalasseus elegans*	PIF	Breeds on low, flat, sandy islands along the west coast of Southern California to northern Mexico. Known to breed in the San Diego Bay National Wildlife Refuge. It winters on the west coast of Mexico and down into South America.	Present (flyover); observed flying over BSA. No suitable breeding habitat is present in the BSA.
Black Skimmer	*Rynchops niger*	BCC, SSC (nesting colony)	In breeding and winter seasons, found on open sandy beaches and on gravel or shell bars with sparse vegetation in salt marsh. Breeds in San Diego Bay National Wildlife Refuge.	Present (flyover); observed flying over the BSA; occurs immediately adjacent to the BSA in the San Diego Bay National Wildlife Refuge.

Species Common Name	Species Scientific Name	Sensitivity Status[1]	Breeding/Wintering Habitat	Potential to Occur within the BSA[2]
Burrowing Owl	*Athene cunicularia*	BCC, PIF, SSC (burrow sites and some winter sites)	Breeds and winters in flat, open terrain with soft soil, short grass, sparsely distributed vegetation, or exposed ground. Also found along the banks of irrigation canals. Known to breed on NASNI and Naval Outlying Landing Field Imperial (NOLFIB).	Present; observed wintering in the southern portion of the BSA. No breeding records exist for SSTC-South to date.
Short-eared Owl	*Asio flammeus*	BCC, SSC (nesting)	Breeds and winters in open country, including prairie, meadows, tundra, moorlands, marshes, savanna, and open woodland.	Present; observed wintering in the southern portion of the BSA, no suitable breeding habitat is present within the BSA.
Vaux's Swift	*Chaetura vauxi*	SSC (nesting)	Nests in coniferous or mixed forest. Forages in forest openings, especially above streams. Small numbers winter in North America.	Present: observed migrating through the southern part of the BSA. No suitable breeding habitat is present within the BSA.
Allen's Hummingbird	*Selasphorus sasin*	BCC	Breeds in moist coastal areas, scrub, chaparral, and forests. Winters in forest edge and scrub clearings with flowers.	Present: observed migrating through the BSA. No suitable breeding habitat is present within the BSA.
Olive-sided Flycatcher	*Contopus cooperi*	PIF, SSC (nesting)	Breeds in montane and northern coniferous forests, and at forest edges and openings such as meadows and ponds. Does not winter in North America.	Present; observed foraging within the BSA during migration. No suitable breeding habitat is present within the BSA.
Loggerhead Shrike	*Lanius ludovicianus*	BCC, PIF, SSC	Breeds and winters in open country, including grasslands and desert habitats where there are scattered trees, tall shrubs, fence posts, utility wires, or other lookout posts.	Present; observed wintering in the BSA. No breeding records exist for SSTC-South to date, but there is potential breeding habitat in the southern part of the BSA.

Species Common Name	Species Scientific Name	Sensitivity Status[1]	Breeding/Wintering Habitat	Potential to Occur within the BSA[2]
Yellow Warbler	*Dendroica petechia*	BCC, SSC (nesting)	Breeds in thickets and other disturbed or regrowing habitats, particularly along streams and wetlands. Very few winter in North America in similar habitats.	Present: observed foraging in the BSA during migration. No suitable breeding habitat exists within the BSA.
Brewer's Sparrow	*Spizella breweri*	PIF	Breeds within sagebrush, preferring dense stands broken up with grassy areas. In winter favors low, dry vegetation.	Present; observed wintering within the BSA. No breeding habitat is present in the BSA.
Grasshopper Sparrow	*Ammodramus savannarum*	PIF, SSC (nesting)	Breeds and winters in open grasslands and prairies with patches of bare ground.	Present; observed breeding in grasslands in the southern part of the BSA.
Yellow-headed Blackbird	*Xanthocephalus xanthocephalus*	SSC (nesting)	Breeds in colonies in freshwater marshes in dense reedy vegetation.	Present; observed migrating through the southern part of the BSA. No suitable breeding habitat exists within the BSA.
Lawrence's Goldfinch	*Spinus lawrencei*	BCC	Breeds and winters near open woodlands, chaparral, and weedy fields.	Present; observed flying over the BSA during migration. No suitable breeding habitat exists within the BSA.

[1] BCC: USFWS Bird of Conservation Concern; PIF: Department of Defense Partners in Flight Priority Species; SSC: CDFW Species of Special Concern; FP: CDFW Fully Protected Species

BCC species from Bird Conservation Region (BCR) 32 (Coastal California U.S. Portion only) *Birds of Conservation Concern* (USFWS 2008b).

Partners In Flight (PIF) species from DoD PIF Priority Species list (DoD 2011).

SSC species from State of California Special Animals List (State of California 2011).

Within the sensitivity status column, parentheses around nesting, wintering, staging, nesting colony, and burrow sites indicate that the particular sensitivity status applies to the species when the species is nesting, wintering, staging, in a nesting colony, or its burrow sites.

[2] Species potential to occur was based on the most recent biological surveys conducted by AECOM in 2012, San Diego Bay Avian Species Report (Tierra Data 2011), RECON 2004, and U.S. Navy 2011. Species listed as "present (flyover)" were only observed flying over the BSA and did not perch, roost, forage or land on any part of the BSA. These species were using the airspace above the BSA to move back and forth between San Diego Bay and the Pacific Ocean.

The following section describes the life history, habitat requirements, closest known population locations, and potential to occur for the nonfederally listed sensitive species observed within the BSA. For species that were observed foraging within the BSA (and not just flying overhead between San Diego Bay and the Pacific Ocean), the approximate location at the time of observation is included in Figure 5. Locations for species where nesting was suspected, or confirmed within the BSA are shown in Figure 6.

Brant

Brant is a CDFW SSC species on its wintering/staging grounds. Brant breed in the arctic and winter along the coast of North America. On the Pacific coast, Brant can be found wintering from Southern Canada to Baja California. Brant require protected marine waters where they can forage on eelgrass. Brant are frequently observed in South San Diego Bay adjacent to the BSA and were observed flying over the BSA when transiting between the bay and the Pacific Ocean.

Common Loon

Common Loon is a CDFW SSC as a nesting species. Common Loons nest in deep freshwater bodies of water in the northern half of North America especially Canada and Alaska. They occur in California only as a migrant and wintering species, frequenting large lakes, bays, and nearshore ocean waters where they can hunt for small fish that make up their prey base. They are frequently observed in South San Diego Bay adjacent to the BSA and were observed flying over the BSA when transiting between the bay and the Pacific Ocean.

White-tailed Kite

White-tailed Kite is a CDFW FP Species. White-tailed Kites nest in riparian woodland, oak groves, and other species of trees or large shrubs adjacent to grassland or other open foraging habitat. They forage primarily on the California vole (*Microtus californicus*) but take other small mammals, small birds, lizards, and insects. White-tailed Kites breed in the Tijuana River Valley, and have been observed along the shores of South San Diego Bay. Suitable foraging habitat exists within the BSA and this species was observed foraging over open grassland in the southern portion of the BSA.

Northern Harrier

Northern Harrier is a CDFW SSC species. Northern Harriers inhabit freshwater marshes; brackish and saltwater marshes; wet meadows; weedy borders of lakes, rivers, and streams; annual and perennial grasslands (including those with vernal pools); weed fields; ungrazed or lightly grazed pastures; and some croplands. Their nests are built on the ground in a dense clump of vegetation. They feed on small mammals, reptiles, amphibians, and birds. Northern Harriers breed in the Tijuana River Valley, and forage frequently along the shores of South San Diego Bay. Suitable foraging habitat exists within the BSA and this species was observed foraging over open grassland and Diegan coastal sage scrub in the southern portion of the BSA.

Whimbrel

Whimbrel is a USFWS BCC species. Whimbrels breed on the arctic tundra and winter along the coasts of North and South America. During the winter and migration, Whimbrels frequent coastal mudflats, sandy beaches, and rocky coastlines. Whimbrels are frequently found in South San Diego Bay and along the beaches adjacent to the BSA and were observed flying over the BSA when transiting between the bay and the Pacific Ocean.

Long-billed Curlew

Long-billed Curlew is a USFWS BCC and a DoD PIF species. Long-billed Curlews breed in sparse, short grasses, including shortgrass and mixed-grass prairies, as well as agricultural fields in the interior of western North America. The closest this species breeds to the BSA is California's Central Valley. Long-billed Curlews winter in wetlands, tidal estuaries, mudflats, flooded fields, and occasionally on beaches. Long-billed Curlews are frequently found in South San Diego Bay and along the beaches adjacent to the BSA and were observed flying over the BSA when transiting between the bay and the Pacific beach. The grasslands and marsh at the south end of the BSA provide suitable foraging habitat.

Marbled Godwit

Marbled Godwit is a USFWS BCC species. Marbled Godwits breed in marshes and grasslands of south-central Canada and north-central U.S. The closest breeding

populations are in northern Nebraska. Marbled Godwits winter on mudflats and beaches. Marbled Godwits are frequently found in South San Diego Bay and on the beaches adjacent to the BSA and were observed flying over the BSA when transiting between the bay and the Pacific Ocean.

Short-billed Dowitcher

Short-billed Dowitcher is a USFWS BCC species. The subspecies of Short-billed Dowitcher that occurs in San Diego County breeds in taiga muskegs of southern Alaska and northwestern Canada. Short-billed Dowitchers winter on coastal mudflats and are commonly encountered on South San Diego Bay. They prefer saltwater or estuarine habitats to freshwater marshes so they are unlikely to forage within the BSA. However, Short-billed Dowitchers were observed flying over the BSA when transiting between San Diego Bay and the beach on the west side of the BSA.

Gull-billed Tern

Gull-billed Tern is a USFWS BCC, a DoD PIF, and a CDFW SSC (nesting colony) species. Gull-billed Terns breed on sandy levees in South San Diego Bay approximately 1 mile east of the BSA. Gull-billed Terns winter along the coasts of Central and South America. Unlike other terns, Gull-billed Terns feed primarily over land, plucking lizards, insects, various marine invertebrates, and chicks of other birds from the surface. Gull-billed Terns were frequently observed foraging in the BSA, but no suitable breeding habitat exists within the BSA.

Elegant Tern

Elegant Tern is a DoD PIF species. Elegant Terns breed on sandy levees in South San Diego Bay approximately 1 mile east of the BSA. Elegant Terns winter along the coasts of Central and South America. Elegant Terns feed on small fish, procured by plunging to the water's surface. SSTC-South sits between a large breeding colony of Elegant Terns and the ocean where they forage and they were observed flying over when they were present during the breeding season. No breeding or foraging habitat is present within the BSA.

Black Skimmer

Black Skimmer is a USFWS BCC and a CDFW SSC species. Black Skimmers breed on sandy levees in South San Diego Bay approximately 1 mile east of the BSA. Black Skimmers winter along the coast of San Diego County, primarily in Mission Bay, but remain in South San Diego Bay in large numbers in some years. Black Skimmers forage by skimming low over the water and plucking small fish from the surface. The BSA is located between a large breeding colony of Black Skimmers and the ocean where they sometimes forage and they were observed flying over the BSA. During one survey, the bill of a Black Skimmer was found at the base of a Great Horned Owl (*Bubo virginianus*) nest in the northern part of the BSA. No breeding or foraging habitat is present within the BSA for Black Skimmers.

Burrowing Owl

Burrowing Owl is a USFWS BCC, a DoD PIF, and a CDFW SSC species. Burrowing Owls breed in grassland and open scrub using the burrows of small mammals or man-made substitutes such as pipes or culverts. Burrowing Owls feed on insects, scorpions, small mammals, small birds, reptiles, and amphibians. Burrowing Owl is a breeding resident in San Diego County and there is also a winter influx of migratory birds. The closest known breeding locations are near the airfields on NASNI and NOLFIB. Suitable breeding and wintering habitat is present within the BSA and two wintering individuals were observed within the open grassland and Diegan coastal sage scrub within the BSA.

Short-eared Owl

Short-eared Owl is a USFWS BCC and a CDFW SSC species. Short-eared Owls breed and winter in grassland and various other open habitats across most of the world. Short-eared Owls have not been known to breed in San Diego County in over 100 years, though occasionally summering birds are observed in suitable habitat suggesting that breeding may still rarely occur. Short-eared Owls feed primarily on small mammals. Suitable wintering habitat for short-eared Owls is present within the BSA and one wintering individual was observed in Diegan coastal sage scrub in the southern portion of the BSA.

Vaux's Swift

Vaux's swift is a CDFW SSC (nesting) species and is a migratory bird that breeds from southwestern Alaska down into northern California and south within the Sierra Nevada Mountains. It breeds in forests and woodlands in large tree cavities or chimneys, and winters in southern Mexico and Central America (Unitt 2004). No suitable breeding habitat for Vaux's Swift is present within the BSA, but suitable foraging habitat exists within the open grassland and wetlands in the southern part of the BSA. Vaux's Swifts were observed during spring and fall migration in the southern portion of the BSA.

Allen's Hummingbird

Allen's Hummingbird is a USFWS BCC species that breeds along the coastal areas of southern Oregon and California and is known to nest in San Onofre in northern San Diego County (Unitt 2004). The species was observed during spring and fall migration in the northern part of the BSA. It is known to nectar on nonnative tree tobacco (*Nicotiana glauca*), which is common in the urban/developed areas within the BSA (Unitt 2004). Currently, Allen's Hummingbird has not been recorded nesting in the southern part of San Diego County. Suitable foraging habitat for Allen's Hummingbird is present within the BSA, although nesting is unlikely due to lack of brushy vegetation and continual supply of nectar sources.

Olive-sided Flycatcher

Olive-sided Flycatcher is a DoD PIF and a CDFW SSC (nesting) species. Olive-sided Flycatcher is a migratory songbird that breeds in coniferous forest across North America and winters in forest edge and clearings in Central and South America. Olive-sided Flycatchers use a variety of habitats with tall trees or snags in migration. Olive-sided Flycatchers feed on flying insects caught in flight. Suitable foraging habitat for migrant Olive-sided Flycatchers is present within the BSA and several migrants were observed along the perimeter fence in the southern portion of the BSA.

Loggerhead Shrike

Loggerhead Shrike is a USFWS BCC, a DoD PIF, and a CDFW SSC species. Loggerhead Shrikes breed in a variety of open habitats with dense shrubs or trees to conceal their nests. They prefer to nest in plants with spines or thorns for impaling their

prey. Loggerhead Shrikes feed on small mammals, small birds, insects, reptiles, and amphibians. Loggerhead Shrikes have been known to nest in the Tijuana River Valley and suitable foraging and breeding habitat is present within the southern part of the BSA. At least one individual was observed during seven survey periods, but no breeding behavior was ever observed. Most shrike observations were within open habitat in the southern portion of the BSA.

Yellow Warbler

Yellow Warbler is a USFWS BCC and a CDFW SSC (nesting) species. Yellow Warblers breed in riparian habitat from San Diego County north to Alaska and across the United States to the east coast. In San Diego County, Yellow Warblers breed in riparian habitat within the Tijuana River Valley, Otay River Valley, and many other rivers and drainages with riparian vegetation. They usually prefer to nest in proximity to streams or other water sources. No suitable riparian vegetation is present within the BSA that could support nesting Yellow Warblers. A migrant Yellow Warbler was detected in the northern part of the BSA.

Brewer's Sparrow

Brewer's Sparrow is a DoD PIF species. Brewer's Sparrows breed in sagebrush habitat and alpine meadows. The few nesting records for San Diego County indicate nests were observed in the high elevation valleys dominated by big sagebrush (*Artemisia-tridentata*). Brewer's Sparrows winter primarily in desert habitat, only rarely being found along the coast in winter. No suitable breeding habitat exists within the BSA, but suitable winter foraging habitat is present. A single individual Brewer's Sparrow spent the winter of 2012 within the southern portion of the BSA.

Grasshopper Sparrow

Grasshopper Sparrow is a DoD PIF and a CDFW SSC species. Grasshopper Sparrows breed in grasslands, preferring native grasslands dominated by bunchgrasses of the genus *Nassella*. They winter in similar habitat but are difficult to detect when not singing. Grasshopper Sparrows were observed breeding within grassland habitat in the southern portion of the BSA. During several surveys, individual male Grasshopper Sparrows were detected singing from the tops of small shrubs scattered throughout the grassland within the southern portion of the BSA. There is suitable habitat for the

species to spend the winter within the BSA; however, they were not detected during that season.

Yellow-headed Blackbird

Yellow-headed Blackbird is a CDFW SSC species within its nesting habitat. This species nests in freshwater marshes with tall emergent vegetation. This species has been known to nest in the far southeastern corner of San Diego County in Boulevard (Unitt 2004). One individual migrant Yellow-headed Blackbird was observed in the seasonal pond in the southern part of the BSA in the fall of 2012. No suitable habitat is present within the BSA to support nesting and the individual observed was a migrant.

Lawrence's Goldfinch

Lawrence's Goldfinch is a USFWS BCC species. Lawrence's Goldfinches are a nomadic species that nests in a variety of habitats, responding to ephemeral abundances of food. The core range of this species in San Diego County is in the mountains. There they prefer oak groves near water for their nesting habitat. Outside of this range, they sporadically breed in the lowlands and along the coast in a variety of habitats and will nest in exotic tree species such as cedars and cypress. Lawrence's Goldfinches were observed flying over the BSA on several occasions and the Monterey cypress trees within the BSA could potentially provide suitable nesting habitat although no breeding behavior was detected.

RESULTS – BIRD USE COUNTS AND BIRD AREA SEARCHES

The following section details the specific statistics that were used to meet the third objective, which was to determine the approximate distribution and quantitative and qualitative measure of relative abundance for resident (either winter or summer residents) and migratory species using the BSA. Resident birds were identified as either winter or summer residents. Winter residents were birds that spend the winter (generally November through February) in the BSA and vicinity. Summer residents were birds that breed in the BSA and nearby vicinity such as San Diego Bay. Migratory birds were species that do not breed within the BSA, but move through the BSA to suitable breeding and wintering habitat, whether in San Diego County, or elsewhere. The following tables and graphs detail the specific analyses completed for BUC and BAS data. Generally, the same analyses were applied to both survey types when applicable.

Bird Use Count Results

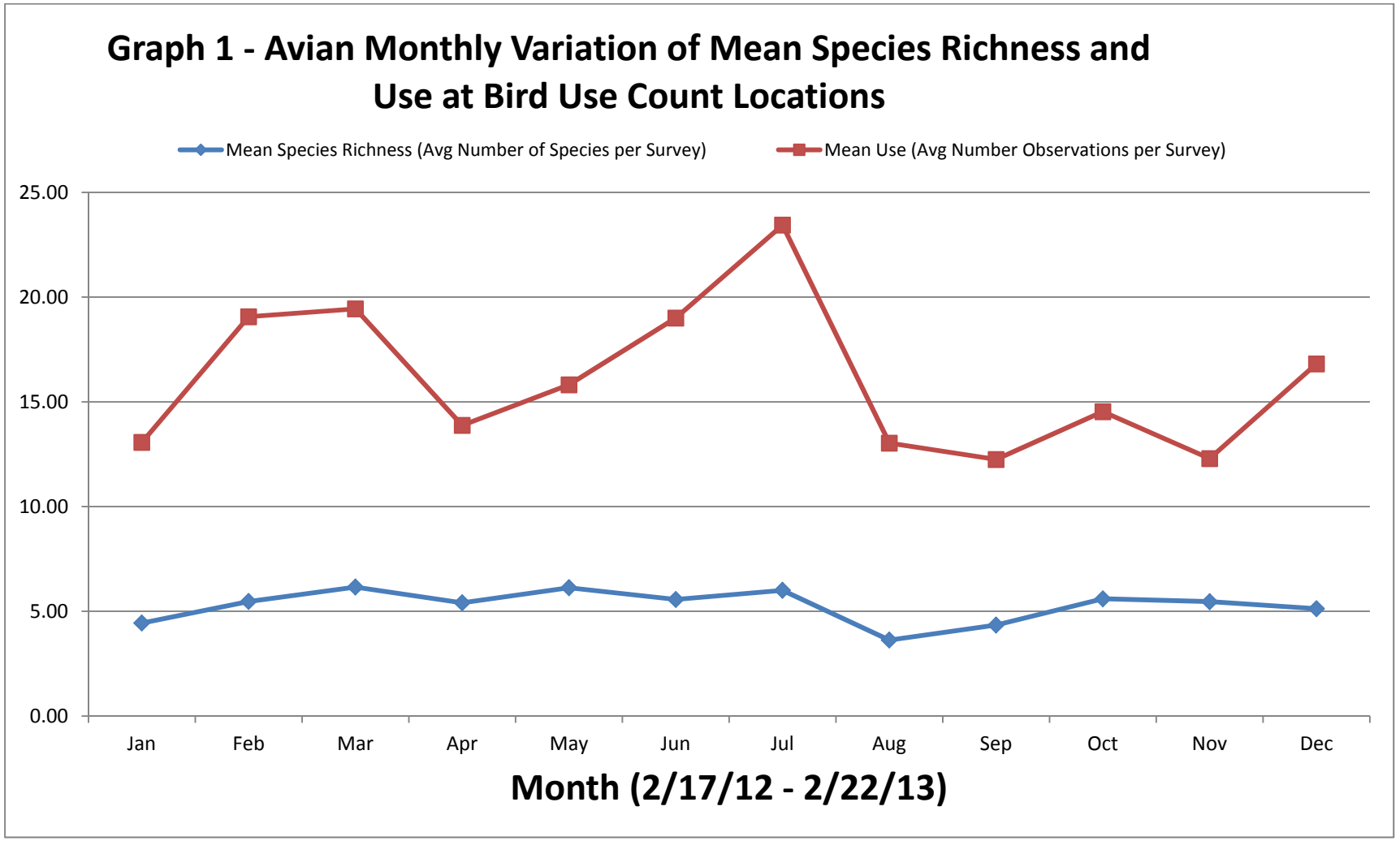
Several analyses were conducted to compare and try to understand the avian use of the BSA and specifically the Proposed Action footprint using BUC results. The number of distinct avian species per month was calculated to determine when the most and fewest species were detected within the BSA. The mean species richness per survey per month was calculated to determine a balanced way to compare when the most or fewest species were detected, given the variability in the number of surveys each month. The number of observations within 330 feet (the radius of the BUCs) was determined to understand the variability in observations per month. Finally, the mean use was calculated to compare the overall avian use of the BSA across survey months.

Table 4 details the number of surveys per month, number of distinct species observed per month, mean species richness per month, total number of avian observations at all eight BUCs combined, and mean avian use at BUCs. Graph 1 below depicts the mean species richness and mean use per month for all avian species detected during BUCs.

Table 4
Monthly Avian Mean Species Richness and Mean Use at BUC Locations

Month	Number of Surveys[1]	Number of Distinct Species Identified within 330 feet[2]	Mean Species Richness (Avg Number of Species per Survey)[2]	Number of Observations within 330 feet[3]	Mean Use (Avg Number Observations per Survey)[3]
Jan	16	28	4.44	209	13.06
Feb	32	44	5.47	610	19.06
Mar	32	47	6.16	622	19.44
Apr	32	52	5.41	444	13.88
May	32	41	6.13	506	15.81
Jun	16	25	5.56	304	19.00
Jul	16	28	6.00	375	23.44
Aug	32	28	3.63	417	13.03
Sep	32	34	4.34	392	12.25
Oct	32	42	5.59	465	14.53
Nov	24	30	5.46	295	12.29
Dec	16	30	5.13	269	16.81
Total	***312***	***112***	***5.27***	***4,908***	***15.73***

[1] Each BUC counted as one survey; thus, during winter and summer when each BUC was visited twice, 16 surveys were, and during the spring and fall, when BUCs were visited four times, 32 surveys were conducted. Surveys conducted during November were restricted during 1 survey week due to Naval training exercises and therefore only 24 surveys instead of 32 were conducted in November.
[2] Does not include nine observations not identified to the species level.
[3] Includes nine observations not identified to the species level.


Graph 1 - Avian Monthly Variation of Mean Species Richness and Use at Bird Use Count Locations
Mean Species Richness (Avg Number of Species per Survey)
Mean Use (Avg Number Observations per Survey)
25.00
20.00
15.00
10.00
5.00
0.00
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Month (2/17/12 - 2/22/13)

The above table shows that the highest numbers of distinct species were observed during the months of February through April, and then October. These months roughly correlate with the time of year that many wintering waterbirds are beginning to leave San Diego and head north, the number of species of breeding terns are beginning to increase, and migrants are moving through the BSA.

Mean species richness was highest in March and May, which generally correlates to spring migration periods. The month of July had the highest mean use, but a low number of distinct species, which correlates to many young birds flying around the BSA after successful nesting. Additionally, during July many tern species that nest within San Diego Bay were flying over the BSA during foraging flights to find fish in the Pacific Ocean for their young.

Table 4, above, and the following Graph 1 show that avian mean use peaks in July, possibly when young birds have fledged and are flying around, or terns are making many foraging flights each day. However, mean species richness after it has been averaged out to account for the different number of surveys conducted during different months, remains relatively constant throughout the year, at around five species per survey. As mentioned previously, there is not much habitat diversity, or stratification within the BSA and that could account for the low species richness. The lack of diverse habitats where species could breed within the BSA may account for the low mean species richness.

To assess potential differences in the number of distinct species, mean species richness, mean use, and evenness between various areas and habitats within the BSA, the BUCs were grouped into two categories based roughly on vegetation type. BUCs 1 through 4 were placed in the northern half of the BSA (in urban/developed vegetation) to compare with BUCs 5 through 8 that were placed in the southern half of the BSA (in native vegetation). Generally, the Proposed Action is centered on the urban/developed habitat (in the northern half of the BSA) and BUCs 5 through 8 were placed in areas that would not be developed as part of the Proposed Action.

The metrics used to compare the BUC locations when they are divided between urban/developed habitat and native habitats are detailed in Table 5. Based on the data in Table 5, the total number of distinct species was higher in the native habitat BUCs (98 species), compared to the urban/developed habitat BUCs (70 species). It should be noted that many of the species detected in the urban/developed habitat BUCs were of

birds flying over and not using the resources on the ground within the BUCs. Mean species richness was higher in native habitat BUCs, as was the number of observations.

Table 5
Avian Mean Species Richness, Diversity, Mean Use, and Evenness at BUC Locations

Location	Number of Surveys	Number of Distinct Species Identified within 330 feet (S)[1]	Mean Species Richness (Avg Number of Species per Survey)[1]	Number of Observations within 330 feet[2]	Mean Use (Avg Number Observations per Survey)[2]	Shannon-Wiener Index (H)	H_{max} = ln(S) Maximum diversity possible	E = Evenness = H/H_{max}
Urban/Developed Habitat								
BUC 1	39	39	5.41	627	16.08	2.42	3.66	0.66
BUC 2	39	38	4.44	508	13.03	2.65	3.64	0.73
BUC 3	39	46	4.64	472	12.10	2.78	3.83	0.73
BUC 4	39	40	4.33	447	11.46	2.58	3.69	0.70
Urban/Developed Subtotal	***156***	***70***	***4.71***	***2,054***	***13.17***	***2.80***	***4.25***	***0.66***
Native Habitat								
BUC 5	39	42	5.23	701	17.97	2.83	3.74	0.76
BUC 6	39	47	5.79	752	19.28	2.80	3.85	0.73
BUC 7	39	42	4.64	614	15.74	2.47	3.74	0.66
BUC 8	39	67	7.67	787	20.18	3.42	4.20	0.81
Native Subtotal	***156***	***98***	***5.83***	***2,854***	***18.29***	***3.35***	***4.58***	***0.73***
Total	**312**	**112**	**5.27**	**4,908**	**15.73**	**3.24**	**4.72**	**0.69**

[1] Does not include nine observations not identified to the species level.
[2] Includes nine observations not identified to the species level.

Additionally, a metric known as evenness was calculated for each BUC in Table 5. The relative abundance of rare and common species within an area is known as evenness and habitats dominated by one or a few species have low evenness, while those with a more even distribution of several species have a high evenness. The Shannon-Wiener Index and Maximum Diversity Possible were used to calculate the evenness of species within each BUC. The closer to 1.0 that the evenness number is, the more evenly distributed species are in terms of abundance and richness. Therefore, a habitat type that has a high number of one species, and several other species with low numbers would have a lower evenness score than a habitat with several species that have similar numbers of abundance. When comparing the urban/developed and native habitat

BUCs, the native habitat BUCs range higher in evenness and thus are more diverse, and have a more even spread of several species. The BUCs in urban/developed habitat have a lower evenness score because the primary species detected was House Finch, with a few other species detected in lower numbers.

To understand which avian species and groups of avian species were more abundant or which species were detected more frequently than others, the mean use and percent composition were determined. Table 6 details the mean use and percent composition for each avian species at BUC locations. Additionally, avian species were grouped into taxonomic categories such as crows and allies, doves and pigeons, herons, kingfishers, owls, parrots, rails and allies, raptors, songbirds, swifts and hummingbirds, waterbirds, and waterfowl. The most common species (greater than 100 total observations) at BUC locations, starting with the most numerous include House Finch (1,362 observations), Horned Lark (454 observations), Anna's Hummingbird (214 observations), White-crowned Sparrow (185 observations), Elegant Tern (180 observations), Mourning Dove (163 observations), Gull-billed Tern (146 observations), Western Meadowlark (143 observations), Savannah Sparrow (127 observations), American Pipit (127 observations), Killdeer (105 observations), and Audubon's Warbler (101 observations). Songbirds accounted for over 60 percent of the composition of the avian community, followed by waterbirds at almost 22 percent. House Finches alone account for roughly 28 percent of the avian community composition.

Table 6
Mean Use and Percent Composition for Each Avian Species at BUC Locations

Common Name	Scientific Name	Number of Observations	Mean Use (avg. number of observations per survey)	Composition of Avian Group (%)	Composition of Avian Community (%)
Crows and Allies					
American Crow	*Corvus brachyrhynchos*	56	0.179	50.91%	1.14%
Common Raven	*Corvus corax*	54	0.173	49.09%	1.10%
Total		*110*	*0.353*	*100.00%*	*2.24%*
Doves and Pigeons					
Eurasian Collared-Dove	*Streptopelia decaocto*	28	0.090	14.36%	0.57%
Mourning Dove	*Zenaida macroura*	163	0.522	83.59%	3.32%
Rock Pigeon	*Columba livia*	4	0.013	2.05%	0.08%
Total		*195*	*0.625*	*100.00%*	*3.97%*
Herons					
Black-crowned Night-Heron	*Nycticorax nycticorax*	1	0.003	8.33%	0.02%
Great Blue Heron	*Ardea herodias*	11	0.035	91.67%	0.22%
Total		*12*	*0.038*	*100.00%*	*0.24%*

Common Name	Scientific Name	Number of Observations	Mean Use (avg. number of observations per survey)	Composition of Avian Group (%)	Composition of Avian Community (%)
Kingfishers					
Belted Kingfisher	*Megaceryle alcyon*	2	0.006	100.00%	0.04%
Total		*2*	*0.006*	*100.00%*	*0.04%*
Owls					
Short-eared Owl	*Asio flammeus*	1	0.003	100.00%	0.02%
Total		*1*	*0.003*	*100.00%*	*0.02%*
Parrots					
Red-crowned Parrot	*Amazona viridigenalis*	2	0.006	100.00%	0.04%
Total		*2*	*0.006*	*100.00%*	*0.04%*
Rails and Allies					
American Coot	*Fulica americana*	13	0.042	100.00%	0.26%
Total		*13*	*0.042*	*100.00%*	*0.26%*
Raptors					
American Kestrel	*Falco sparverius*	13	0.042	22.81%	0.26%
American Peregrine Falcon	*Falco peregrinus anatum*	5	0.016	8.77%	0.10%
Cooper's Hawk	*Accipiter cooperii*	8	0.026	14.04%	0.16%
Merlin	*Falco columbarius*	6	0.019	10.53%	0.12%
Northern Harrier	*Circus cyaneus*	4	0.013	7.02%	0.08%
Red-tailed Hawk	*Buteo jamaicensis*	14	0.045	24.56%	0.29%
Sharp-shinned Hawk	*Accipiter striatus*	1	0.003	1.75%	0.02%
Turkey Vulture	*Cathartes aura*	5	0.016	8.77%	0.10%
White-tailed Kite	*Elanus leucurus*	1	0.003	1.75%	0.02%
Total		*57*	*0.183*	*100.00%*	*1.16%*
Songbirds (non-corvids)					
Western Flycatcher	*Empidonax difficilis/occidentalis*	1	0.003	0.03%	0.02%
American Goldfinch	*Spinus tristis*	3	0.010	0.10%	0.06%
American Pipit	*Anthus rubescens*	127	0.407	4.27%	2.59%
Ash-throated Flycatcher	*Myiarchus cinerascens*	3	0.010	0.10%	0.06%
Audubon's Warbler	*Setophaga coronata auduboni*	101	0.324	3.40%	2.06%
Barn Swallow	*Hirundo rustica*	18	0.058	0.61%	0.37%
Belding's Savannah Sparrow	*Passerculus sandwichensis beldingi*	2	0.006	0.07%	0.04%
Bewick's Wren	*Thryomanes bewickii*	2	0.006	0.07%	0.04%
Black Phoebe	*Sayornis nigricans*	67	0.215	2.26%	1.37%
Black-headed Grosbeak	*Pheucticus melanocephalus*	1	0.003	0.03%	0.02%
Blue-gray Gnatcatcher	*Polioptila caerulea*	1	0.003	0.03%	0.02%
Bobolink	*Dolichonyx oryzivorus*	1	0.003	0.03%	0.02%
Brewer's Blackbird	*Euphagus cyanocephalus*	1	0.003	0.03%	0.02%
Brewer's Sparrow	*Spizella breweri*	1	0.003	0.03%	0.02%
Brown-headed Cowbird	*Molothrus ater*	2	0.006	0.07%	0.04%
Bullock's Oriole	*Icterus bullockii*	1	0.003	0.03%	0.02%
Bushtit	*Psaltriparus minimus*	6	0.019	0.20%	0.12%
Cassin's Kingbird	*Tyrannus vociferans*	7	0.022	0.24%	0.14%
Cliff Swallow	*Petrochelidon pyrrhonota*	90	0.288	3.03%	1.83%
Common Yellowthroat	*Geothlypis trichas*	3	0.010	0.10%	0.06%
European Starling	*Sturnus vulgaris*	44	0.141	1.48%	0.90%
Greater Roadrunner	*Geococcyx californianus*	2	0.006	0.07%	0.04%

Common Name	Scientific Name	Number of Observations	Mean Use (avg. number of observations per survey)	Composition of Avian Group (%)	Composition of Avian Community (%)
Hermit Thrush	*Catharus guttatus*	2	0.006	0.07%	0.04%
Hooded Oriole	*Icterus cucullatus*	5	0.016	0.17%	0.10%
Horned Lark	*Eremophila alpestris*	454	1.455	15.28%	9.25%
House Finch	*Carpodacus mexicanus*	1,362	4.365	45.84%	27.75%
House Sparrow	*Passer domesticus*	2	0.006	0.07%	0.04%
House Wren	*Troglodytes aedon*	24	0.077	0.81%	0.49%
Lawrence's Goldfinch	*Spinus lawrencei*	1	0.003	0.03%	0.02%
Lazuli Bunting	*Passerina amoena*	2	0.006	0.07%	0.04%
Lesser Goldfinch	*Spinus psaltria*	9	0.029	0.30%	0.18%
Lincoln's Sparrow	*Melospiza lincolnii*	10	0.032	0.34%	0.20%
Loggerhead Shrike	*Lanius ludovicianus*	7	0.022	0.24%	0.14%
Marsh Wren	*Cistothorus palustris*	13	0.042	0.44%	0.26%
Myrtle Warbler	*Setophaga coronata coronate*	1	0.003	0.03%	0.02%
Nashville Warbler	*Oreothlypis ruficapilla*	2	0.006	0.07%	0.04%
Northern Mockingbird	*Mimus polyglottos*	7	0.022	0.24%	0.14%
Northern Rough-winged Swallow	*Stelgidopteryx serripennis*	17	0.054	0.57%	0.35%
Orange-crowned Warbler	*Oreothlypis celata*	16	0.051	0.54%	0.33%
Pacific-slope Flycatcher	*Empidonax difficilis*	5	0.016	0.17%	0.10%
Pine Siskin	*Spinus pinus*	1	0.003	0.03%	0.02%
Red-winged Blackbird	*Agelaius phoeniceus*	2	0.006	0.07%	0.04%
Rock Wren	*Salpinctes obsoletus*	9	0.029	0.30%	0.18%
Savannah Sparrow	*Passerculus sandwichensis*	127	0.407	4.27%	2.59%
Say's Phoebe	*Sayornis saya*	54	0.173	1.82%	1.10%
Song Sparrow	*Melospiza melodia*	5	0.016	0.17%	0.10%
Summer Tanager	*Piranga rubra*	1	0.003	0.03%	0.02%
Tree Swallow	*Tachycineta bicolor*	2	0.006	0.07%	0.04%
Western Kingbird	*Tyrannus verticalis*	6	0.019	0.20%	0.12%
Western Meadowlark	*Sturnella neglecta*	143	0.458	4.81%	2.91%
Western Wood-Pewee	*Contopus sordidulus*	1	0.003	0.03%	0.02%
White-crowned Sparrow	*Zonotrichia leucophrys*	185	0.593	6.23%	3.77%
Wilson's Warbler	*Cardellina pusilla*	10	0.032	0.34%	0.20%
Yellow-headed Blackbird	*Xanthocephalus xanthocephalus*	2	0.006	0.07%	0.04%
Total		*2,971*	*9.522*	*100.00%*	*60.53%*
Swifts and Hummingbirds					
Allen's Hummingbird or Rufous Hummingbird	*Selasphorus sasin* or *Selasphorus rufus*	1	0.003	0.44%	0.02%
Anna's Hummingbird	*Calypte anna*	214	0.686	93.86%	4.36%
Rufous Hummingbird	*Selasphorus rufus*	1	0.003	0.44%	0.02%
Unidentified Hummingbird species	*Hummingbird* sp.	1	0.003	0.44%	0.02%
Unidentified Selasphorus Hummingbird	*Selasphorus* sp.	3	0.010	1.32%	0.06%
Vaux's Swift	*Chaetura vauxi*	7	0.022	3.07%	0.14%
White-throated Swift	*Aeronautes saxatalis*	1	0.003	0.44%	0.02%
Total		*228*	*0.731*	*100.00%*	*4.65%*

Common Name	Scientific Name	Number of Observations	Mean Use (avg. number of observations per survey)	Composition of Avian Group (%)	Composition of Avian Community (%)
Waterbirds (non-Anseriformes)					
American Avocet	*Recurvirostra americana*	2	0.006	0.19%	0.04%
Black-bellied Plover	*Pluvialis squatarola*	13	0.042	1.23%	0.26%
California Brown Pelican	*Pelecanus occidentalis californicus*	84	0.269	7.94%	1.71%
California Gull	*Larus californicus*	60	0.192	5.67%	1.22%
California Least Tern	*Sternula antillarum browni*	20	0.064	1.89%	0.41%
Caspian Tern	*Hydroprogne caspia*	28	0.090	2.65%	0.57%
Common Loon	*Gavia immer*	1	0.003	0.09%	0.02%
Common Tern or Arctic Tern	*Sterna hirundo* or *Sterna paradisaea*	2	0.006	0.19%	0.04%
Double-crested Cormorant	*Phalacrocorax auritus*	75	0.240	7.09%	1.53%
Elegant Tern	*Thalasseus elegans*	180	0.577	17.01%	3.67%
Forster's Tern	*Sterna forsteri*	41	0.131	3.88%	0.84%
Greater Yellowlegs	*Tringa melanoleuca*	3	0.010	0.28%	0.06%
Gull-billed Tern	*Gelochelidon nilotica*	146	0.468	13.80%	2.97%
Heermann's Gull	*Larus heermanni*	2	0.006	0.19%	0.04%
Herring Gull	*Larus argentatus*	1	0.003	0.09%	0.02%
Killdeer	*Charadrius vociferus*	105	0.337	9.92%	2.14%
Least Sandpiper	*Calidris minutilla*	59	0.189	5.58%	1.20%
Long-billed Curlew	*Numenius americanus*	3	0.010	0.28%	0.06%
Long-billed Dowitcher	*Limnodromus scolopaceus*	35	0.112	3.31%	0.71%
Marbled Godwit	*Limosa fedoa*	15	0.048	1.42%	0.31%
Pacific Loon	*Gavia pacifica*	1	0.003	0.09%	0.02%
Ring-billed Gull	*Larus delawarensis*	21	0.067	1.98%	0.43%
Royal Tern	*Thalasseus maxima*	16	0.051	1.51%	0.33%
Semipalmated Plover	*Charadrius semipalmatus*	17	0.054	1.61%	0.35%
Unidentified Gull Species	*Gull* sp.	3	0.010	0.28%	0.06%
Western Gull	*Larus occidentalis*	77	0.247	7.28%	1.57%
Western Sandpiper	*Calidris mauri*	1	0.003	0.09%	0.02%
Willet	*Tringa semipalmata*	47	0.151	4.44%	0.96%
Total		*1,058*	*3.391*	*100.00%*	*21.56%*
Waterfowl					
American Wigeon	*Anas americana*	52	0.167	20.08%	1.06%
Brant	*Branta bernicla*	6	0.019	2.32%	0.12%
Cinnamon Teal	*Anas cyanoptera*	4	0.013	1.54%	0.08%
Gadwall	*Anas strepera*	4	0.013	1.54%	0.08%
Green-winged Teal	*Anas crecca*	88	0.282	33.98%	1.79%
Mallard	*Anas platyrhynchos*	7	0.022	2.70%	0.14%
Northern Pintail	*Anas acuta*	32	0.103	12.36%	0.65%
Northern Shoveler	*Anas clypeata*	66	0.212	25.48%	1.34%
Total		*259*	*0.830*	*100.00%*	*5.28%*
Grand Total		**4,908**	**15.731**		**100.00%**

Bird Area Search Results

Several analyses were conducted to understand the avian richness and mean use during the year of surveys at BASs. Table 7 details the number of surveys, number of distinct species per month, mean species richness per month, total number of avian observations at all five BASs combined, and mean avian use at BASs. The number of distinct avian species per month was calculated to determine when the most and fewest species were detected within BASs. The mean species richness per month was calculated to determine a balanced way to compare when the most or fewest species were detected, given the variability in the number of surveys each month. The number of observations within 330 feet (the radius of the BAS) was determined to understand the variability in observations (which could represent many species or a few species) per month. Finally, the mean use was calculated to compare the overall avian use of the BSA across survey months.

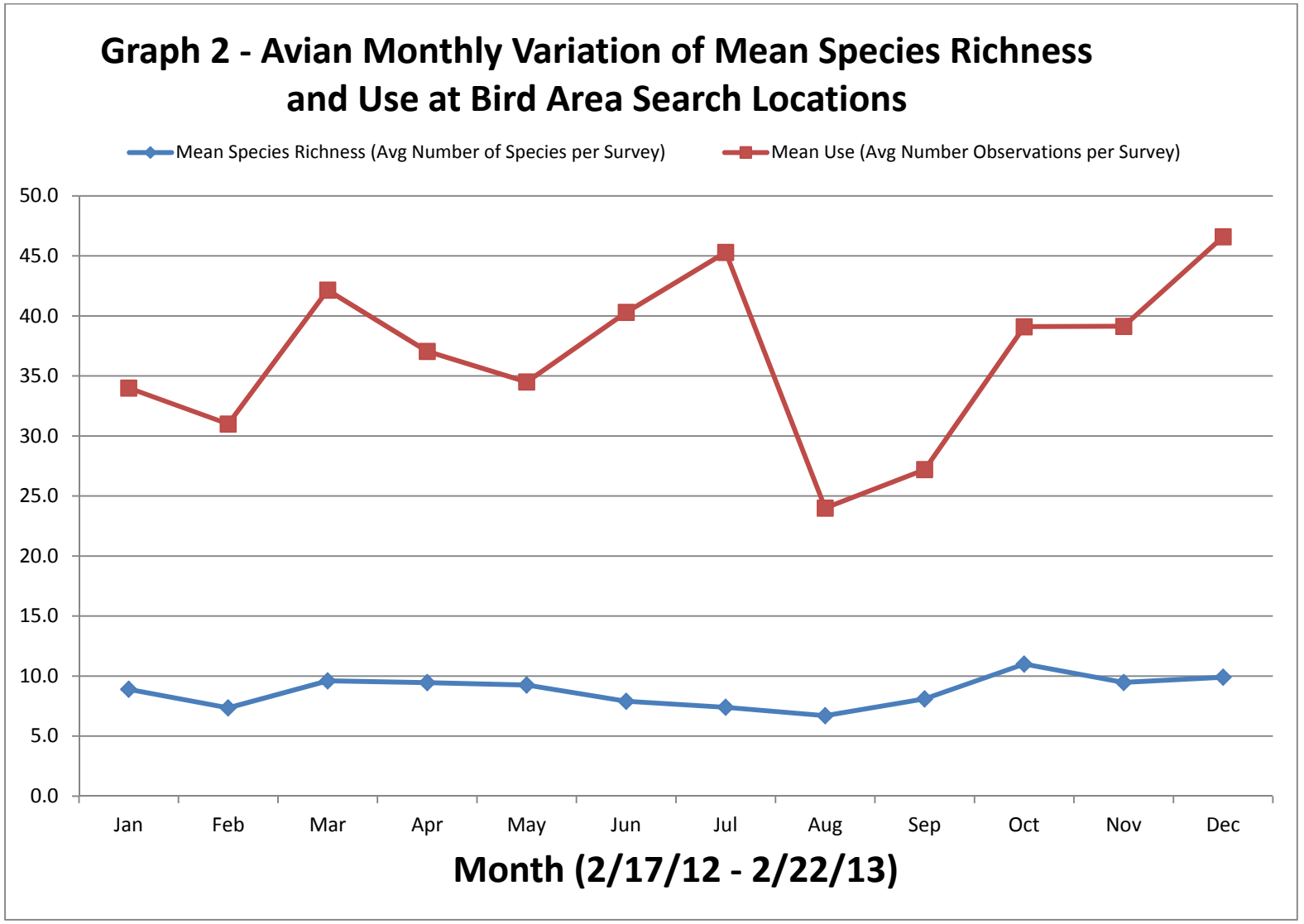
Table 7
Monthly Avian Mean Species Richness and Mean Use at BAS Locations

Month	Number of Surveys[1]	Number of Distinct Species Identified within 330 feet[2]	Mean Species Richness (Avg Number of Species per Survey)[2]	Number of Observations within 330 feet[3]	Mean Use (Avg Number Observations per Survey)[3]
Jan	10	33	8.9	340	34.0
Feb	20	37	7.4	620	31.0
Mar	20	52	9.6	843	42.2
Apr	20	57	9.5	741	37.1
May	20	51	9.3	690	34.5
Jun	10	23	7.9	403	40.3
Jul	10	27	7.4	453	45.3
Aug	20	36	6.7	480	24.0
Sep	20	46	8.1	544	27.2
Oct	20	60	11.0	782	39.1
Nov	15	33	9.5	587	39.1
Dec	10	38	9.9	466	46.6
Total	***195***	***119***	***8.8***	***6949***	***35.6***

[1] This counts each BAS as one survey. During the winter and summer months, each BAS was only visited twice per month; hence, 10 surveys per month were conducted. For the spring and summer, each BAS was visited once a week; hence, 20 surveys were conducted during the spring and summer. Each BAS was visited three times in November instead of four times due to a Naval training exercise that prevented biologists from conducting the survey; hence, 15 surveys were conducted.
[2] Does not include 28 observations not identified to the species level.
[3] Includes 28 observations not identified to the species level.

The habitat within the BSA from 2012 to 2013 supported approximately ten breeding species (primarily House Finches, Horned Larks, Mourning Doves and Anna's Hummingbirds, but the complete list is provided in Appendix A). The BSA is located along the Pacific Flyway, and is a large patch of relatively undeveloped habitat along Silver Strand. Birds migrating at night along the Pacific Coast may see a dark patch (due to the few buildings and few security lights) that corresponds to the BSA, and decide to pause there during migration. The BSA is surrounded by development to the south and east, with the Pacific Ocean to the west. Therefore, the BSA is a convenient "stepping stone" for birds migrating along the Pacific Flyway. The number of distinct species was highest during March through May and October, which correspond to spring and fall migration months. Mean species richness was highest in October as many migrants (including migrating first-year birds) were moving south through the BSA. Mean species richness was lowest in August because many of the waterbirds (especially terns) had already begun their migration south, and other birds were dispersing away from the BSA. Mean use of the BSA was highest in December, which may be due to several wintering raptors and high numbers of wintering passerines that forage within the BSA (Red-tailed Hawks, Northern Harriers, Loggerhead Shrikes, Western Meadowlarks, White-crowned Sparrows, Horned Larks). Despite high mean use during December, there was low species richness, which makes sense given the large numbers of a few wintering species. The BSA is the largest piece of underdeveloped land along the southern part of Silver Strand and several flocks of wintering Western Meadowlarks, Horned Larks, and White-crowned Sparrows were observed.

Additionally, a local pair of Red-tailed Hawks successfully fledged several young just outside the BSA, and the young birds and adults were seen foraging during the winter within the BSA. The nest location was not confirmed; however the nest could have been located in one of several large eucalyptus trees at the adjacent West View Elementary School. Additionally, a large population of San Diego black-tailed jackrabbits (*Lepus californicus bennettii*) is centered primarily in the southern portion of the BSA. These likely serve as an attractant to several raptor species as prey items. A small wetland that held water in the winter of 2012 attracted several species of waterfowl and passerines, including marsh wrens (*Cistothorus palustris*). Graph 2 below depicts the statistics shown in Table 7.


Graph 2 - Avian Monthly Variation of Mean Species Richness and Use at Bird Area Search Locations
Mean Species Richness (Avg Number of Species per Survey)
Mean Use (Avg Number Observations per Survey)
50.0
45.0
40.0
35.0
30.0
25.0
20.0
15.0
10.0
5.0
0.0
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Month (2/17/12 - 2/22/13)

Generally BASs 2, 3, and 4 were located in the northern part of the BSA where the Proposed Action would be located. BAS 1 and BAS 5 were located adjacent to the Proposed Action, but in areas that would not be disturbed as part of the Proposed Action. The BASs could not be consistently grouped into urban/developed habitats versus native habitats (like the BUCs were), because most BASs had components of both.

Based on the data in Table 8, the total number of distinct species was highest in BAS 2 (75 species), and lowest in BAS 1 (47 species). BAS 2 also had the highest mean species richness. BAS 2 had one small patch of coyote brush next to several piles of old cement slabs and ruderal vegetation. Several species of birds were attracted to the bushes for cover, and Rock Wrens (*Salpinctes obsoletus*) took up residence in the cement slabs. The patch of coyote brush was less than 100 feet in diameter, but it was the location where the Least Bell's Vireo, Mourning Warbler (*Geothlypis philadelphia*), Western Palm Warblers (*Setophaga palmarum palmarum*), and other species were detected. Additionally, in the winter months, the adjacent ruderal vegetation attracted several species of sparrows.

Table 8
Avian Mean Species Richness, Diversity, Mean Use, and Evenness at BAS Locations

Location	Number of Surveys	Number of Distinct Species Identified within 330 feet (S)[1]	Mean Species Richness (Avg Number of Species per Survey)[1]	Number of Observations within 330 feet[2]	Mean Use (Avg Number Observations per Survey)[2]	Shannon-Wiener Index (H)	H_{max} = ln(S) Maximum diversity possible	E = Evenness = H/H_{max}
1	39	47	8.38	1788	45.8	2.621	3.850	0.681
2	39	75	10.33	1731	44.4	2.483	4.317	0.575
3	39	61	8.49	1026	26.3	3.016	4.111	0.734
4	39	63	7.59	1120	28.7	3.048	4.143	0.736
5	39	53	9.10	1284	32.9	2.744	3.970	0.691
Total	***195***	***119***	***8.78***	***6949***	***35.6***	***3.127***	***4.779***	***0.654***

[1] Does not include 28 observations not identified to the species level.
[2] Includes 28 observations not identified to the species level.

Most raptor species detected within BAS 1 were perched along the fence line, and all tern, gull, and pelican species were detected flying overhead from San Diego Bay to the Pacific Ocean. There was very little vegetation structure within BAS 1 to provide shelter and food for species, so most birds observed were flying overhead. Although the number of observations was highest at BAS 1, terns, gulls, and pelicans accounted for

the vast majority of birds observed. There was a major flyway between San Diego Bay and the Pacific Ocean at the north end of BAS 1, because it is the location where Silver Strand is the narrowest, and therefore the shortest distance for birds to fly between San Diego Bay and the Pacific Ocean. Terns were often seen flying west to the Pacific Ocean and then flying back to San Diego Bay carrying fish to their young.

The Shannon-Wiener Index and Maximum Diversity Possible that were used to calculate evenness for BASs did not yield any particular trends, but rather confirmed that BAS 2, even though it had the highest species richness, had the lowest evenness score (0.575) because most of the observations were of House Finches (they would nest in the Monterey cypress trees within BAS 2). BASs 3 and 4 had the highest evenness scores because they had the most even distribution of species, with no particular species being more dominant than another species.

To understand which avian species and groups of avian species were more abundant or which species were detected more frequently for BAS locations, the mean use and percent composition were determined. Table 9 details the mean use and percent composition for each avian species at BAS locations. Additionally, avian species were grouped into taxonomic categories such as crows and allies, doves and pigeons, herons, kingfishers, owls, raptors, songbirds, swifts and hummingbirds, waterbirds, and waterfowl. The most common species at BAS locations that had over 100 observations starting with the most numerous include: House Finch (1, 772 observations), Elegant Tern (678 observations), Western Meadowlark (450 observations), Horned Lark (427 observations), Savannah Sparrow (345 observations), White-crowned Sparrow (335 observations), Anna's Hummingbird (286 observations), Mourning Dove (214 observations), Gull-billed Tern (165 observations), Royal Tern (158 observations), California Brown Pelican (149 observations), Audubon's Warbler (147 observations), Double-crested Cormorant (128 observations), Western Gull (127 observations), California Gull (124 observations), and Marbled Godwit (106 observations). Songbirds accounted for approximately 58 percent of the composition of the avian community, followed by waterbirds at approximately 29 percent.

Table 9
Mean Use and Percent Composition for Each Avian Species at BAS Locations

Common Name	Scientific Name	Number of Observations	Mean Use (avg. number of observations per survey)	Composition of Avian Group (%)	Composition of Avian Community (%)
Crows and Allies					
American Crow	*Corvus brachyrhynchos*	42	0.22	0.362068966	0.60%
Common Raven	*Corvus corax*	74	0.38	0.637931034	1.06%
Total		*116*	*0.59*	*1*	*1.67%*
Dove and Pigeons					
Eurasian Collared-Dove	*Streptopelia decaocto*	16	0.08	0.069264069	0.23%
Mourning Dove	*Zenaida macroura*	214	1.10	0.926406926	3.08%
Rock Pigeon	*Columba livia*	1	0.01	0.004329004	0.01%
Total		*231*	*1.18*	*1*	*3.32%*
Herons					
Black-crowned Night-Heron	*Nycticorax nycticorax*	1	0.01	7.69%	0.01%
Great Blue Heron	*Ardea herodias*	11	0.06	84.62%	0.16%
Great Egret	*Ardea alba*	1	0.01	7.69%	0.01%
Total		*13*	*0.07*	*100.00%*	*0.19%*
Kingfishers					
Belted Kingfisher	*Megaceryle alcyon*	1	0.01	100.00%	0.01%
Total		*1*	*0.01*	*100.00%*	*0.01%*
Owls					
Burrowing Owl	*Athene cunicularia*	2	0.01	7.41%	0.03%
Great Horned Owl	*Bubo virginianus*	25	0.13	92.59%	0.36%
Total		*27*	*0.14*	*100.00%*	*0.39%*
Raptors					
American Kestrel	*Falco sparverius*	41	0.21	29.71%	0.59%
American Peregrine Falcon	*Falco peregrinus anatum*	6	0.03	4.35%	0.09%
Cooper's Hawk	*Accipiter cooperii*	21	0.11	15.22%	0.30%
Merlin	*Falco columbarius*	7	0.04	5.07%	0.10%
Northern Harrier	*Circus cyaneus*	10	0.05	7.25%	0.14%
Osprey	*Pandion haliaetus*	7	0.04	5.07%	0.10%
Red-tailed Hawk	*Buteo jamaicensis*	42	0.22	30.43%	0.60%
Sharp-shinned Hawk	*Accipiter striatus*	2	0.01	1.45%	0.03%
White-tailed Kite	*Elanus leucurus*	2	0.01	1.45%	0.03%
Total		*138*	*0.71*	*100.00%*	*1.99%*
Songbirds (non-corvids)					
American Pipit	*Anthus rubescens*	67	0.34	1.65%	0.96%
Ash-throated Flycatcher	*Myiarchus cinerascens*	3	0.02	0.07%	0.04%
Audubon's Warbler	*Setophaga coronata auduboni*	147	0.75	3.61%	2.12%
Barn Swallow	*Hirundo rustica*	53	0.27	1.30%	0.76%
Belding's Savannah Sparrow	*Passerculus sandwichensis beldingi*	1	0.01	0.02%	0.01%
Black Phoebe	*Sayornis nigricans*	64	0.33	1.57%	0.92%
Black-headed Grosbeak	*Pheucticus melanocephalus*	2	0.01	0.05%	0.03%
Brewer's Sparrow	*Spizella breweri*	1	0.01	0.02%	0.01%
Brown-headed Cowbird	*Molothrus ater*	1	0.01	0.02%	0.01%
California Towhee	*Melozone crissalis*	2	0.01	0.05%	0.03%
Cassin's Kingbird	*Tyrannus vociferans*	4	0.02	0.10%	0.06%
Chipping Sparrow	*Spizella passerina*	4	0.02	0.10%	0.06%

Common Name	Scientific Name	Number of Observations	Mean Use (avg. number of observations per survey)	Composition of Avian Group (%)	Composition of Avian Community (%)
Cliff Swallow	*Petrochelidon pyrrhonota*	57	0.29	1.40%	0.82%
Coastal California Gnatcatcher	*Polioptila californica californica*	1	0.01	0.02%	0.01%
Common Yellowthroat	*Geothlypis trichas*	4	0.02	0.10%	0.06%
Dark-eyed Junco	*Junco hyemalis*	2	0.01	0.05%	0.03%
European Starling	*Sturnus vulgaris*	18	0.09	0.44%	0.26%
Grasshopper Sparrow	*Ammodramus savannarum*	10	0.05	0.25%	0.14%
Greater Roadrunner	*Geococcyx californianus*	2	0.01	0.05%	0.03%
Great-tailed Grackle	*Quiscalus mexicanus*	1	0.01	0.02%	0.01%
Hammond's Flycatcher	*Empidonax hammondii*	1	0.01	0.02%	0.01%
Hermit Thrush	*Catharus guttatus*	5	0.03	0.12%	0.07%
Hermit Warbler	*Setophaga occidentalis*	3	0.02	0.07%	0.04%
Hooded Oriole	*Icterus cucullatus*	7	0.04	0.17%	0.10%
Horned Lark	*Eremophila alpestris*	427	2.19	10.50%	6.14%
House Finch	*Carpodacus mexicanus*	1,772	9.09	43.57%	25.50%
House Wren	*Troglodytes aedon*	27	0.14	0.66%	0.39%
Lawrence's Goldfinch	*Spinus lawrencei*	1	0.01	0.02%	0.01%
Lazuli Bunting	*Passerina amoena*	1	0.01	0.02%	0.01%
Lesser Goldfinch	*Spinus psaltria*	16	0.08	0.39%	0.23%
Lincoln's Sparrow	*Melospiza lincolnii*	4	0.02	0.10%	0.06%
Loggerhead Shrike	*Lanius ludovicianus*	8	0.04	0.20%	0.12%
MacGillivray's Warbler	*Geothlypis tolmiei*	1	0.01	0.02%	0.01%
Marsh Wren	*Cistothorus palustris*	4	0.02	0.10%	0.06%
Mourning Warbler	*Geothlypis philadelphia*	1	0.01	0.02%	0.01%
Myrtle Warbler	*Setophaga coronata coronata*	1	0.01	0.02%	0.01%
Northern Mockingbird	*Mimus polyglottos*	10	0.05	0.25%	0.14%
Northern Rough-winged Swallow	*Stelgidopteryx serripennis*	6	0.03	0.15%	0.09%
Orange-crowned Warbler	*Oreothlypis celata*	8	0.04	0.20%	0.12%
Pacific-slope Flycatcher	*Empidonax difficilis*	7	0.04	0.17%	0.10%
Rock Wren	*Salpinctes obsoletus*	5	0.03	0.12%	0.07%
Ruby-crowned Kinglet	*Regulus calendula*	12	0.06	0.30%	0.17%
Savannah Sparrow	*Passerculus sandwichensis*	345	1.77	8.48%	4.96%
Say's Phoebe	*Sayornis saya*	85	0.44	2.09%	1.22%
Song Sparrow	*Melospiza melodia*	11	0.06	0.27%	0.16%
Swainson's Thrush	*Catharus ustulatus*	2	0.01	0.05%	0.03%
Townsend's Warbler	*Setophaga townsendi*	4	0.02	0.10%	0.06%
Tree Swallow	*Tachycineta bicolor*	3	0.02	0.07%	0.04%
Unidentified Kingbird Species	*Kingbird* sp.	2	0.01	0.05%	0.03%
Unidentified *Passerina* Species	*Passerina* sp.	1	0.01	0.02%	0.01%
Unidentified Swallow Species	*Swallow* sp.	5	0.03	0.12%	0.07%
Unidentified Thrush Species	*Thrush* sp.	1	0.01	0.02%	0.01%
Unidentified Warbler Species	*Warbler* sp.	1	0.01	0.02%	0.01%
Violet-green Swallow	*Tachycineta thalassina*	2	0.01	0.05%	0.03%
Warbling Vireo	*Vireo gilvus*	5	0.03	0.12%	0.07%
Western Kingbird	*Tyrannus verticalis*	17	0.09	0.42%	0.24%
Western Meadowlark	*Sturnella neglecta*	450	2.31	11.06%	6.48%

Common Name	Scientific Name	Number of Observations	Mean Use (avg. number of observations per survey)	Composition of Avian Group (%)	Composition of Avian Community (%)
Western Palm Warbler	*Setophaga palmarum palmarum*	2	0.01	0.05%	0.03%
Western Tanager	*Piranga ludoviciana*	2	0.01	0.05%	0.03%
Western Wood-Pewee	*Contopus sordidulus*	2	0.01	0.05%	0.03%
White-crowned Sparrow	*Zonotrichia leucophrys*	335	1.72	8.24%	4.82%
Willow Flycatcher	*Empidonax traillii*	1	0.01	0.02%	0.01%
Wilson's Warbler	*Cardellina pusilla*	19	0.10	0.47%	0.27%
Yellow Warbler	*Setophaga petechia*	1	0.01	0.02%	0.01%
Total		*4,067*	*20.86*	*100.00%*	*58.53%*
Swifts and Hummingbirds					
Allen's Hummingbird	*Selasphorus sasin*	1	0.01	0.33%	0.01%
Allen's Hummingbird or Rufous Hummingbird	*Selasphorus sasin* or *Selasphorus rufus*	2	0.01	0.66%	0.03%
Anna's Hummingbird	*Calypte anna*	286	1.47	95.02%	4.12%
Unidentified Hummingbird species	*Hummingbird* sp.	1	0.01	0.33%	0.01%
Unidentified Selasphorus Hummingbird	*Selasphorus* sp.	2	0.01	0.66%	0.03%
Vaux's Swift	*Chaetura vauxi*	7	0.04	2.33%	0.10%
White-throated Swift	*Aeronautes saxatalis*	2	0.01	0.66%	0.03%
Total		*301*	*1.54*	*100.00%*	*4.33%*
Waterbirds (non-Anseriformes)					
Black Skimmer	*Rynchops niger*	2	0.01	0.10%	0.03%
Black-bellied Plover	*Pluvialis squatarola*	25	0.13	1.24%	0.36%
California Brown Pelican	*Pelecanus occidentalis californicus*	149	0.76	7.36%	2.14%
California Gull	*Larus californicus*	124	0.64	6.13%	1.78%
California Least Tern	*Sternula antillarum browni*	23	0.12	1.14%	0.33%
Caspian Tern	*Hydroprogne caspia*	39	0.20	1.93%	0.56%
Double-crested Cormorant	*Phalacrocorax auritus*	128	0.66	6.32%	1.84%
Elegant Tern	*Thalasseus elegans*	678	3.48	33.50%	9.76%
Forster's Tern	*Sterna forsteri*	70	0.36	3.46%	1.01%
Glaucous-winged Gull	*Larus glaucescens*	1	0.01	0.05%	0.01%
Greater Yellowlegs	*Tringa melanoleuca*	7	0.04	0.35%	0.10%
Gull-billed Tern	*Gelochelidon nilotica*	165	0.85	8.15%	2.37%
Herring Gull	*Larus argentatus*	2	0.01	0.10%	0.03%
Killdeer	*Charadrius vociferus*	57	0.29	2.82%	0.82%
Least Sandpiper	*Calidris minutilla*	26	0.13	1.28%	0.37%
Lesser Yellowlegs	*Tringa flavipes*	1	0.01	0.05%	0.01%
Long-billed Curlew	*Numenius americanus*	6	0.03	0.30%	0.09%
Marbled Godwit	*Limosa fedoa*	106	0.54	5.24%	1.53%
Parasitic Jaeger	*Stercorarius parasiticus*	2	0.01	0.10%	0.03%
Red-necked Phalarope	*Phalaropus lobatus*	1	0.01	0.05%	0.01%
Ring-billed Gull	*Larus delawarensis*	5	0.03	0.25%	0.07%
Royal Tern	*Thalasseus maxima*	158	0.81	7.81%	2.27%
Ruddy Turnstone	*Arenaria interpres*	2	0.01	0.10%	0.03%
Semipalmated Plover	*Charadrius semipalmatus*	58	0.30	2.87%	0.83%
Short-billed Dowitcher	*Limnodromus griseus*	3	0.02	0.15%	0.04%
Unidentified Gull Species	*Gull* sp.	13	0.07	0.64%	0.19%
Western Gull	*Larus occidentalis*	127	0.65	6.27%	1.83%

Common Name	Scientific Name	Number of Observations	Mean Use (avg. number of observations per survey)	Composition of Avian Group (%)	Composition of Avian Community (%)
Western Sandpiper	*Calidris mauri*	6	0.03	0.30%	0.09%
Whimbrel	*Numenius phaeopus*	15	0.08	0.74%	0.22%
Willet	*Tringa semipalmata*	25	0.13	1.24%	0.36%
Total		*2,024*	*10.38*	*100.00%*	*29.13%*
Waterfowl					
American Wigeon	*Anas americana*	3	0.02	9.68%	0.04%
Green-winged Teal	*Anas crecca*	3	0.02	9.68%	0.04%
Mallard	*Anas platyrhynchos*	7	0.04	22.58%	0.10%
Northern Pintail	*Anas acuta*	15	0.08	48.39%	0.22%
Northern Shoveler	*Anas clypeata*	2	0.01	6.45%	0.03%
Snow Goose	*Chen caerulescens*	1	0.01	3.23%	0.01%
Total		*31*	*0.16*	*100.00%*	*0.45%*
Grand Total		**6,949**	**35.64**		**100.00%**

DISCUSSION

A total of 154 bird species were detected within and adjacent to the BSA during avian surveys between February 2012 and February 2013. Of these 154 species, three were federally listed as endangered, two were federally delisted, and two were state listed as endangered. None of these listed or delisted species were detected breeding within the BSA. Additionally, 22 other sensitive avian species based on lists from the USFWS BCC, DoD PIF, and CDFW SSC were detected breeding, migrating through, foraging, or wintering in the BSA. A total of 10 species were confirmed breeding within the BSA during the study, with the most common being House Finch, Mourning Dove, and Anna's Hummingbird. The most common bird groups detected in flight over the BSA include: various species of terns, gulls, pelicans, and other waterbirds. Several species used the BSA for foraging (but do not breed within the BSA) and these include: Gull-billed Tern, Peregrine Falcon, American Kestrel, and Red-tailed Hawk. Several species wintered within the BSA, and these include: White-crowned Sparrow, Western Meadowlark, Savannah Sparrow, and Yellow-rumped Warbler. Overall, avian diversity and richness across the year was around five species per BUC and around nine species per BAS. More species were detected during periods of migration (i.e., April and October), and an increase in avian observations in July was potentially related to the increase in trips that adult terns made between San Diego Bay and the Pacific Ocean to feed their young.

Within the more developed northern half of the BSA, BUC points 1 through 4 were all located in urban/developed and disturbed habitats where the Proposed Action would be

located. These BUC points accounted for fewer total species, a lower species richness, and fewer birds overall than BUC points 5 through 8, which were sited in native habitat (in the southern half of the BSA). Of the listed or sensitive species observed utilizing the BSA (not just observed flying over), the majority of sensitive avian species were observed wintering and foraging in the southern part of the BSA. The only sensitive species (Grasshopper Sparrow) observed nesting within the BSA during the study was located in the southern half of the BSA.

The Proposed Action would be developed primarily within the northern part of the BSA, which would have little impact on habitat used by most of the sensitive species. No nesting locations of any USFWS BCC, DoD PIF, or CDFW SSC sensitive avian species were detected where the Proposed Action would be located. The southern part of the BSA (where most sensitive species were detected) would be left in its current state and avian species would continue to be able to use the various habitats for nesting, foraging, roosting, and migrating.

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APPENDIX A

AVIAN SPECIES DETECTED DURING AVIAN SURVEYS WITHIN AND ADJACENT TO THE BSA

APPENDIX A
Avian Species Detected during Avian Surveys within and adjacent to the BSA

Scientific Names	Common Names	Seasonality	Breeding Status	Activity
Order Anseriformes				
Family Anatidae				
Chen caerulescens	Snow Goose	M	N	2
Branta bernicla[4]	Brant[4]	WR	N	3
Branta canadensis	Canada Goose	M	N	2
Anas strepera	Gadwall	WR	N	1
Anas americana	American Wigeon	WR	N	1
Anas platyrhynchos	Mallard	WR	N	1
Anas cyanoptera	Cinnamon Teal	WR	N	1
Anas clypeata	Northern Shoveler	WR	N	1
Anas acuta	Northern Pintail	WR	N	1
Anas crecca	Green-winged Teal	WR	N	1
Melanitta perspicillata	Surf Scoter	WR	N	2
Melanitta fusca	White-winged Scoter	WR	N	3
Melanitta americana	Black Scoter	WR	N	3
Order Gaviiformes				
Family Gaviidae				
Gavia stellate	Red-throated Loon	WR	N	3
Gavia pacifica	Pacific Loon	WR	N	3
Gavia immer[4]	Common Loon[4]	WR	N	3
Order Podicipediformes				
Family Podicipedidae				
Podiceps nigricollis	Eared Grebe	WR	N	3
Order Suliformes				
Family Sulidae				
Sula leucogaster	Brown Booby	M	N	3
Family Phalacrocoracidae				
Phalacrocorax auritus	Double-crested Cormorant	YR	N	2
Order Pelecaniformes				
Family Pelecanidae				
Pelecanus occidentalis californicus[3]	California Brown Pelican[3]	YR	N	2
Family Ardeidae				
Ardea herodias	Great Blue Heron	YR	P	1
Ardea alba	Great Egret	YR	P	1
Nycticorax nycticorax	Black-crowned Night-Heron	YR	P	2
Order Accipitriformes				
Family Cathartidae				
Cathartes aura	Turkey Vulture	M	N	2
Family Pandionidae				
Pandion haliaetus	Osprey	YR	P	2
Family Accipitridae				
Elanus leucurus[3]	White-tailed Kite[3]	YR	N	1
Circus cyaneus[4]	Northern Harrier[4]	YR	P	1
Accipiter striatus	Sharp-shinned Hawk	WR	N	1
Accipiter cooperii	Cooper's Hawk	YR	P	1
Buteo lineatus	Red-shouldered Hawk	M	N	3
Buteo jamaicensis	Red-tailed Hawk	YR	P	1
Order Gruiformes				
Family Rallidae				
Fulica americana	American Coot	WR	N	1
Order Charadriiformes				
Family Recurvirostridae				

Scientific Names	Common Names	Seasonality	Breeding Status	Activity
Recurvirostra americana	American Avocet	YR	P	1
Family Charadriidae				
Pluvialis squatarola	Black-bellied Plover	WR	N	2
Charadrius semipalmatus	Semipalmated Plover	WR	N	2
Charadrius vociferus	Killdeer	YR	B	1
Family Scolopacidae				
Tringa melanoleuca	Greater Yellowlegs	WR	N	1
Tringa semipalmata	Willet	WR	N	2
Tringa flavipes	Lesser Yellowlegs	M	N	2
Numenius phaeopus[5]	Whimbrel[5]	WR	N	2
Numenius americanus[5]	Long-billed Curlew[5]	WR	N	1
Limosa fedoa[5]	Marbled Godwit[5]	WR	N	2
Arenaria interpres	Ruddy Turnstone	WR	N	2
Calidris minutilla	Least Sandpiper	WR	N	2
Calidris mauri	Western Sandpiper	WR	N	2
Limnodromus griseus[5]	Short-billed Dowitcher[5]	WR	N	2
Limnodromus scolopaceus	Long-billed Dowitcher	WR	N	1
Phalaropus lobatus	Red-necked Phalarope	M	N	2
Family Stercorariidae				
Stercorarius parasiticus	Parasitic Jaeger	WR	N	3
Family Laridae				
Larus heermanni	Heermann's Gull	WR	N	2
Larus delawarensis	Ring-billed Gull	WR	N	2
Larus occidentalis	Western Gull	YR	N	2
Larus californicus	California Gull	WR	N	2
Larus argentatus	Herring Gull	WR	N	2
Larus glaucescens	Glaucous-winged Gull	WR	N	2
Sternula antillarum browni[1,2,3]	California Least Tern[1,2,3]	SR	N	2
Gelochelidon nilotica[4,5]	Gull-billed Tern[4,5]	SR	N	1
Hydroprogne caspia	Caspian Tern	YR	N	2
Sterna hirundo/paradisaea	Common/Arctic Tern	M	N	2
Sterna forsteri	Forster's Tern	YR	N	2
Thalasseus maxima	Royal Tern	YR	N	2
Thalasseus elegans	Elegant Tern	SR	N	2
Rynchops niger[4,5]	Black Skimmer[4,5]	YR	N	2
Order Columbiformes				
Family Columbridae				
Columba livia	Rock Pigeon	YR	P	1
Streptopelia decaocto	Eurasian Collared-Dove	YR	P	2
Zenaida macroura	Mourning Dove	YR	B	1
Order Cuculiformes				
Family Cuculidae				
Geococcyx californianus	Greater Roadrunner	M	N	1
Order Strigiformes				
Family Tytonidae				
Tyto alba	Barn Owl	YR	P	1
Family Strigidae				
Bubo virginianus	Great Horned Owl	YR	B	1
Athene cunicularia[4,5]	Burrowing Owl[4,5]	WR	P	1
Asio flammeus[4]	Short-eared Owl[4]	WR	N	1
Order Apodiformes				
Family Apodidae				
Chaetura vauxi[4]	Vaux's Swift[4]	M	N	1
Aeronautes saxatalis	White-throated Swift	YR	N	1
Family Trochilidae				
Calypte anna	Anna's Hummingbird	YR	B	1
Selasphorus rufus	Rufous Hummingbird	M	N	1

Scientific Names	Common Names	Seasonality	Breeding Status	Activity
Selasphorus sasin[5]	Allen's Hummingbird[5]	M	N	1
Order Coraciiformes				
Family Alcedinidae				
Megaceryle alcyon	Belted Kingfisher	M	N	2
Order Falconiformes				
Family Falconidae				
Falco sparverius	American Kestrel	WR	N	1
Falco columbarius	Merlin	WR	N	1
Falco peregrinus anatum[3,5]	American Peregrine Falcon[3,5]	WR	N	1
Order Psittaciformes				
Family Psittacidae				
Amazona viridigenalis	Red-crowned Parrot	YR	N	2
Order Passeriformes				
Family Tyrannidae				
Contopus cooperi[4]	Olive-sided Flycatcher[4]	M	N	1
Contopus sordidulus	Western Wood-Pewee	M	N	1
Empidonax traillii[2]	Willow Flycatcher[2]	M	N	1
Empidonax hammondii	Hammond's Flycatcher	M	N	1
Empidonax difficilis	Pacific-slope Flycatcher	M	N	1
Sayornis nigricans	Black Phoebe	YR	B	1
Sayornis saya	Say's Phoebe	YR	P	1
Myiarchus cinerascens	Ash-throated Flycatcher	M	N	1
Tyrannus vociferans	Cassin's Kingbird	YR	P	1
Tyrannus verticalis	Western Kingbird	M	N	1
Family Laniidae				
Lanius ludovicianus[4,5]	Loggerhead Shrike[4,5]	WR	N	1
Family Vireonidae				
Vireo bellii pusillus[1,2]	Least Bell's Vireo[1,2]	M	N	1
Vireo gilvus	Warbling Vireo	M	N	1
Family Corvidae				
Aphelocoma californica	Western Scrub-Jay	M	N	1
Corvus brachyrhynchos	American Crow	YR	P	1
Corvus corax	Common Raven	YR	P	1
Family Alaudidae				
Eremophila alpestris	Horned Lark	YR	B	1
Family Hirundinidae				
Tachycineta bicolor	Tree Swallow	WR	N	1
Tachycineta thalassina	Violet-green Swallow	M	N	1
Stelgidopteryx serripennis	Northern Rough-winged Swallow	M	N	1
Petrochelidon pyrrhonota	Cliff Swallow	SR	P	1
Hirundo rustica	Barn Swallow	SR	N	1
Family Aegithalidae				
Psaltriparus minimus	Bushtit	M	N	1
Family Troglodytidae				
Salpinctes obsoletus	Rock Wren	WR	N	1
Troglodytes aedon	House Wren	WR	N	1
Cistothorus palustris	Marsh Wren	WR	N	1
Thryomanes bewickii	Bewick's Wren	M	N	1
Family Polioptilidae				
Polioptila caerulea	Blue-gray Gnatcatcher	M	N	1
Polioptila californica californica[1,4]	Coastal California Gnatcatcher[1,4]	M	N	1
Family Regulidae				
Regulus calendula	Ruby-crowned Kinglet	WR	N	1
Family Turdidae				
Catharus ustulatus	Swainson's Thrush	M	N	1
Catharus guttatus	Hermit Thrush	WR	N	1
Family Mimidae				
Mimus polyglottos	Northern Mockingbird	YR	P	1

Scientific Names	Common Names	Seasonality	Breeding Status	Activity
Family Sturnidae				
Sturnus vulgaris	European Starling	YR	P	1
Family Motacillidae				
Anthus rubescens	American Pipit	WR	N	1
Family Parulidae				
Oreothlypis celata	Orange-crowned Warbler	WR	N	1
Oreothlypis ruficapilla	Nashville Warbler	M	N	1
Geothlypis tolmiei	MacGillivray's Warbler	M	N	1
Geothlypis Philadelphia	Mourning Warbler	M	N	1
Geothlypis trichas	Common Yellowthroat	M	N	1
Setophaga petechia[4, 5]	Yellow Warbler[4, 5]	M	N	1
Setophaga palmarum	Palm Warbler	M	N	1
Setophaga coronata *Setophaga coronata auduboni* *Setophaga coronata coronata*	Yellow-rumped Warbler Audubon's Warbler Myrtle Warbler	WR	N	1
Setophaga townsendi	Townsend's Warbler	M	N	1
Setophaga occidentalis	Hermit Warbler	M	N	1
Family Emberzidae				
Pipilo maculates	Spotted Towhee	M	N	1
Spizella passerina	Chipping Sparrow	M	N	1
Spizella breweri	Brewer's Sparrow	WR	N	1
Passerculus sandwichensis *Passerculus sandwichensis ssp.* *Passerculus s. beldingi*[2]	Savannah Sparrow "Western" Savannah Sparrow Belding's Savannah Sparrow[2]	WR	N	1
Ammodramus savannarum[4]	Grasshopper Sparrow[4]	SR	B	1
Melospiza melodia	Song Sparrow	YR	B	1
Melospiza lincolnii	Lincoln's Sparrow	M	N	1
Zonotrichia leucophrys	White-crowned Sparrow	WR	N	1
Junco hyemalis	Dark-eyed Junco	M	N	1
Family Cardinalidae				
Piranga rubra	Summer Tanager	WR	N	1
Piranga ludoviciana	Western Tanager	M	N	1
Pheucticus melanocephalus	Black-headed Grosbeak	M	N	1
Passerina amoena	Lazuli Bunting	M	N	1
Family Icteridae				
Dolichonyx oryzivorus	Bobolink	M	N	2
Agelaius phoeniceus	Red-winged Blackbird	M	N	1
Sturnella neglecta	Western Meadowlark	YR	B	1
Xanthocephalus xanthocephalus[4]	Yellow-headed Blackbird[4]	M	N	1
Euphagus cyanocephalus	Brewer's Blackbird	M	N	2
Quiscalus mexicanus	Great-tailed Grackle	M	N	2
Molothrus ater	Brown-headed Cowbird	M	P	2
Icterus cucullatus	Hooded Oriole	SR	P	1
Icterus bullockii	Bullock's Oriole	M	N	1
Family Fringillidae				
Carpodacus mexicanus	House Finch	YR	B	1
Spinus pinus	Pine Siskin	M	N	2
Spinus psaltria	Lesser Goldfinch	YR	N	2
Spinus lawrencei[5]	Lawrence's Goldfinch[5]	M	N	2
Spinus tristis	American Goldfinch	WR	N	2
Family Passeridae				
Passer domesticus	House Sparrow	YR	P	1

[1] Federally Threatened or Endangered Species
[2] State Threatened or Endangered Species
[3] State Fully Protected Species
[4] State Species of Special Concern
[5] Bird of Conservation Concern

Seasonality:

- YR – Year-round resident
- SR – Summer resident
- WR – Winter resident – some may be present for most of year, but do not breed locally
- M – Occurs only in migration or as a dispersing member of a nearby resident population

Breeding Status

- B – Documented breeding within the BSA
- P – Potential to breed within the BSA
- N – Does not breed within the BSA

Activity

- 1 – Observed foraging or roosting within the BSA
- 2 – Observed flying through the BSA
- 3 – Only observed incidentally offshore, over bay, or otherwise outside the BSA

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